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THE SPHERE

Vol. CLXVIII No. 2192
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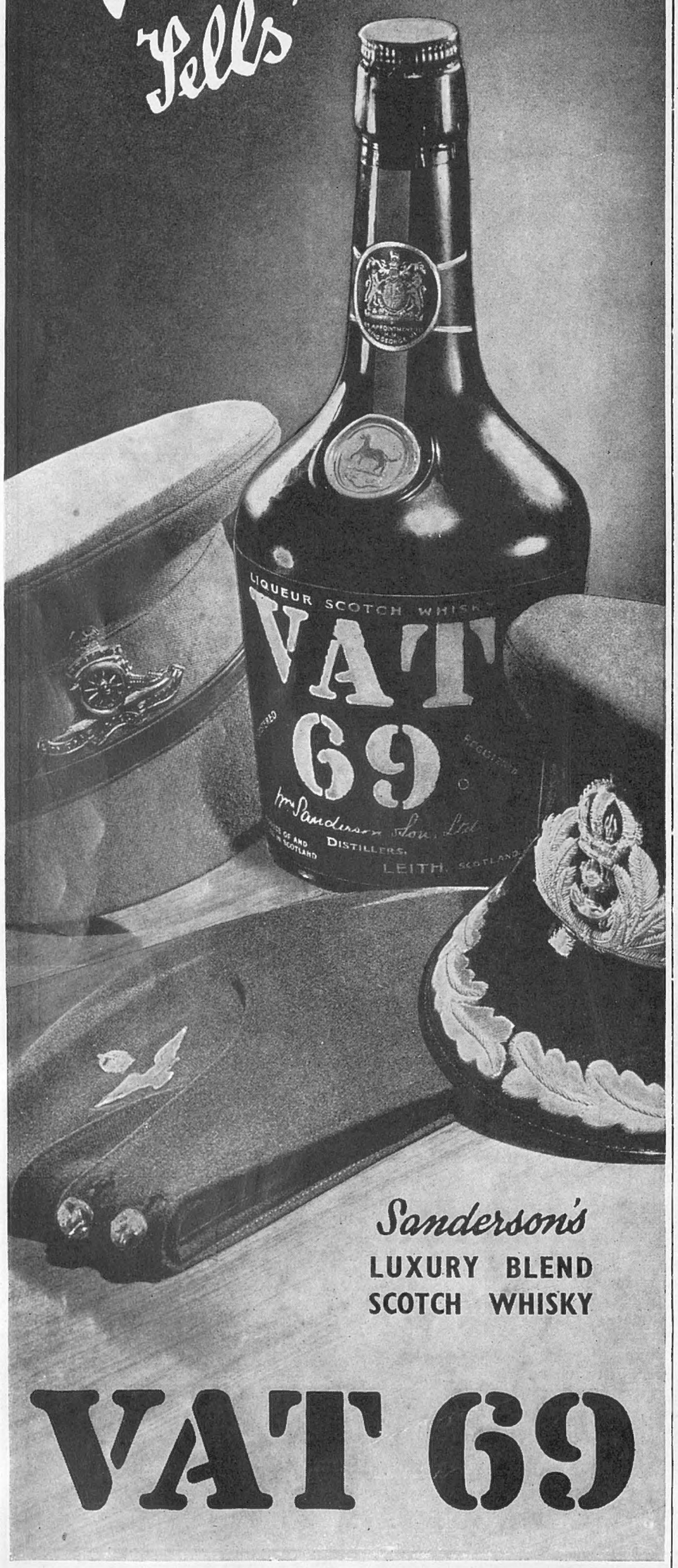

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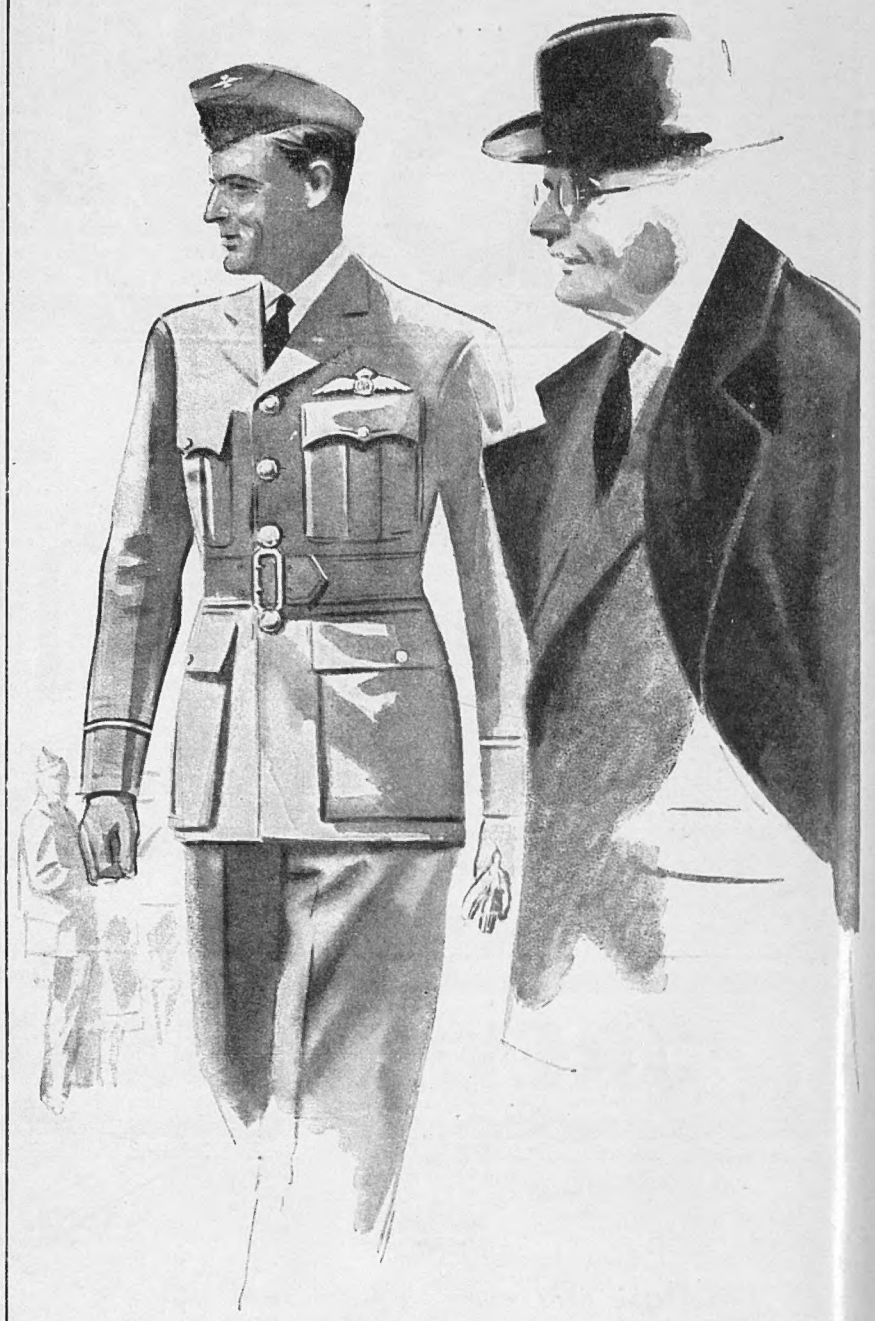

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Volume CLXVIII No. 2192 The SPHERE, London, January 24, 1942

THE SPHERE

With which is incorporated "THE GRAPHIC"

The Empire's Illustrated Weekly

London, January 24, 1942

MR. WINSTON CHURCHILL RETURNS TO BRITAIN BY AIR—FROM BERMUDA TO PLYMOUTH (3,330 MILES) NON-STOP. DURING ONE PART OF THIS GREAT FLIGHT, THE PRIME MINISTER TOOK THE CONTROLS AND FLEW THE GIANT FLYING-BOAT HIMSELF

For his return home from the United States, the Prime Minister foiled the carefully-laid plans of the Axis by flying back by way of Bermuda, non-stop to Plymouth—a distance of 3,330 miles. It was known that "packs" of U-boats were operating off the Atlantic coast of America: in preference to the northerly route by way of Newfoundland and Greenland and Iceland, it was decided to make the journey by the southerly route, so that no land was sighted after leaving Bermuda until actual arrival at Plymouth. The flight has been described as one of the most momentous of the war. With the Prime Minister were Lord Beaverbrook, Admiral Sir Dudley Pound and Air Chief-Marshal Sir Charles Portal. Captain Kelly Rogers was the pilot; but during the epic flight Mr. Churchill himself took the controls for a spell. (He first flew a plane as far back as 1913.) In the picture above, the Prime Minister is seen in the pilot's seat, wearing his now-famous "siren suit" and with his usual cigar; head-phones are in position, and the height of the aircraft at this moment was 8,000 ft. As soon as he had got the "feel" of the huge aircraft, Mr. Churchill indulged himself (as any pilot would!) in a couple of steep turns. Throughout the flight the Premier took the keenest interest in the operational technicalities and received reports on the progress of the flight. (*Further pictures on page 99 of this issue.*)

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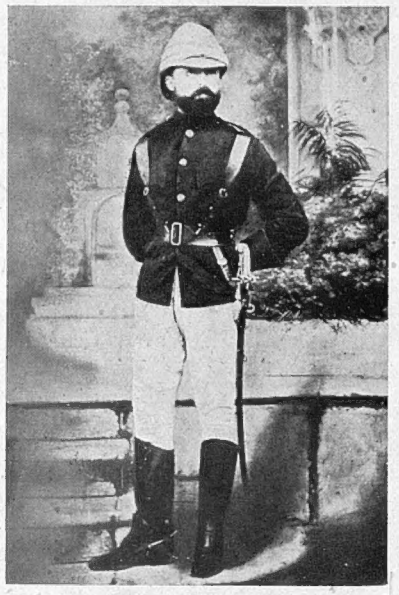
A WAR NEWSLETTER —No. 125

1, NEW OXFORD STREET, W.C.1.

Mr. Churchill. — The whole nation heaved a sigh when it learned that the Premier was safe and well in England again. He is not a young man and does not belong to the "air age," which thinks nothing of putting a girdle round the earth inside a week. He showed great pluck and initiative and youthful energy; and, we believe, his visit to North America has done signal service to the Allied cause. His great prestige and experience, his clarity, frankness and calm courage, played a leading part in those vital discussions which aimed at canalising and co-ordinating, at long last, a concentrated and united effort against the Aggression Front in every sphere, military, economic and political. We cannot do without Mr. Churchill. We prayed for his return with his powers unimpaired. Perhaps a section of the public would like him to resume the reins "as before, but with a difference." As orator, inspirer, leader and general organiser of the British share in the Victory, he is indispensable. Those functions require all the time and all the energy of a superman. There is no time left for supernumerary functions or extra responsibilities. The great leader in any project is marked by his ability to choose his subordinates by insight into character and to trust them to perform their allotted tasks without interference in details. That trust must be shared by the nation. The great leader humbly listens to, and adopts, the advice of his technical heads of departments, and bases his major projects on their advice. In a democracy the head of the Government (short of creating a contradiction in terms) does not assume command of the fighting forces and does not even appoint men to key positions in the civil, military and political spheres without consultation with his advisers. His position, exalted and terribly responsible, implies that, just as he and his Government advise the Sovereign, so he is himself advised by a number of responsible experts. To-day we welcome back and heartily thank Mr. Churchill for his signal achievements and labours in America and Canada, and we wish him long life and health for the completion of those labours which are his accepted functions and which no other leader we can name is capable of performing so well. We believe that the best way of performing them is not to add to them; for they are heavy enough. We want to be assured that he has, to assist and to advise him, a number of subordinate leaders in every sphere of the war effort. One man cannot hold all the strings in this complicated loom; and every man is mortal, for every man is human, and not superhuman. It were a curious commentary on our Democracy if parallels between the powers of Hitler and of Mr. Churchill within the boundaries of their own States grew more and more observable and more and more the subject of criticism.

The Duke of Connaught as an Army cadet in the year 1867

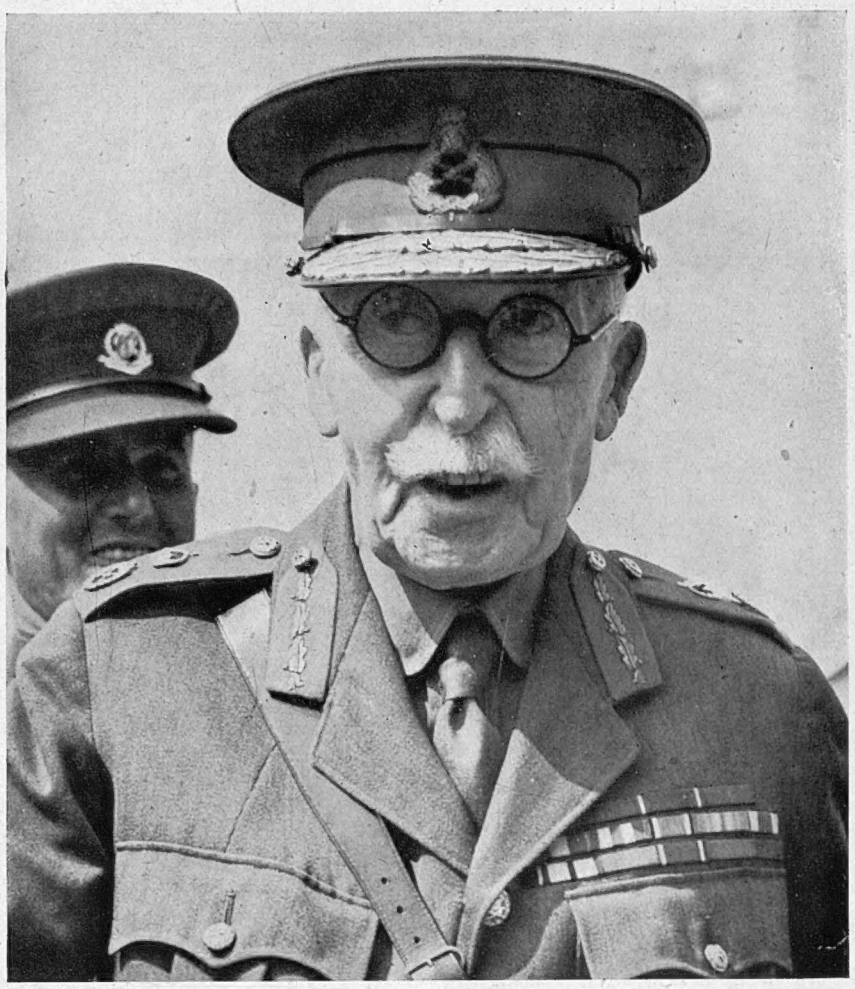


The Duke in 1882, when he commanded the 3rd Infantry Brigade

League of Balkan Nations. —The Yugoslav-Greek Pact may be an example of far-sighted statesmanship and important on that account. In its wider scope of aspirations it may be at once described as magnanimous. It does not follow Captain Balfour's declaration (made on the same day) that post-war justice must be "tempered" with long and ruthless memory of crimes committed against God and man. That Greece and Yugoslavia can to-day plan for, and envisage, a united front of Balkan nations, mutually co-operating each with each politically and economically, to foster trade and to resist aggression, without expressly excluding Bulgaria and Rumania, at least, argues a Christianity and nobility of character among the statesmen of Greece and Yugoslavia, which is beyond the compass of my imagination. Time and again, these two nations, Bulgaria and Rumania, have proved themselves unworthy of trust, incapable of seeing one inch beyond the petty designs of their own national greed, the disturbers of the peace of decent nations, the jackals that follow the big marauders, the brawlers and sneak-thieves of the underworld of Europe. The theory that Bulgarians and Rumanians could within a generation be so transformed in character as to be deemed worthy to co-operate in keeping the peace in the Balkans, or in Europe or in civilisation, is beyond my wildest dreams of a millennium. I can conceive of no other retribution for them during the first post-war decade than that they should be meted out the jackal's share of the judgment and punishment, including the cutting of their avaricious claws and the neutralising of their powers of disturbing the peace of decent peoples for half a century at least.

Redundant. — Sometimes I feel I shall scream if the B.B.C. announcers do not cease to remind us that at Brest three German warships of importance are "taking shelter." Public memory we know is lamentably short, but I believe it is not so short as all that. Indeed, if the B.B.C. cannot mention Brest without this reminder, I shall begin to wonder whether those much-attacked vessels are not perhaps Nazi "wooden walls." One day perhaps we shall have an opportunity to study the statistics of the weight and categories of bombs aimed at those warships, and then we shall be able to count the cost in men, planes and material, translated into terms of money and of strategic expediency, of keeping three important enemy warships off the seas. It will be an extraordinarily interesting calculation for the experts and for the ignorant public. We all of us appreciate that the neutralisation of those vessels in the present balance of sea power is of prime importance. The difference between liquidating a warship on the high seas and one in a heavily-defended port, by air attack, is clearly not yet to be comprehended by the uninformed. Until all the facts are before them, some armchair critics will cynically agree with the B.B.C. that these vessels "take shelter" in Brest very cleverly. Wise men will wait in patience until the time is ripe for an expert explanation. Meanwhile, we need no thrice-daily reminder from the B.B.C. of the target for to-day.

The Duke of Connaught and His Mother. — It may be said with reasonable colour that the Duke of Connaught was a link, and the last link, with the Iron Duke, and, accepting that, their lives were a bridge which spanned the years between 1769 and 1942—173 years! What worlds away is that existence in England depicted in Winterhalter's group, painted in 1851 in the setting of the Great Exhibition, depicting the Queen and Prince Consort, with Wellington and his godson. The Queen's youngest son was a model of goodness, duty and selflessness, and the nearest he ever went to giving his mother anxiety (save when he was ill) was when he announced to her his desire to marry. No passage in the Queen's journal more clearly gives the lie to the undying legend, kept alive by the tribe of royal biographer-novelists of the Strachey school, of the Great Queen's character, both as regards her family life and her public relations, than does that which relates to Prince Arthur's confession of love for Princess Louise of Prussia. There is no shadow of excuse for anyone who reads this passage (March 2, 1878) to deny to the Queen the possession of sound political wisdom and of impartial justice, sympathy and humanity, in her family relations. But I wonder if these scribblers who batten on the Royal Family ever trouble to read the available evidence in the royal archives, or in published books, which constantly contradict the theories, based on legends, which they are determined to "prove" before they start to write their books.



THE DEATH OF THE DUKE OF CONNAUGHT at the age of ninety-one: Last week-end the death, at Bagshot Park, Surrey, was announced of the Duke of Connaught at the age of ninety-one. He was the last surviving son of Queen Victoria and Prince Albert, and had been in failing health for some time. With his death, the Dukedom, created in 1874, ceases to rank as Royal; so that the Earl of Macduff (the Duke's heir, son of Prince Arthur of Connaught—who died in 1938) will not be known as H.R.H. The late Duke entered the Army as far back as 1868 and all his life had been identified with it. As recently as 1939, he was making appearances in public, although his strength was even then failing

H.G. and Re-enlistment.— It is not for us to argue, but to obey. The time has no doubt come to lock away our national heirloom (and silver safety-valve), the right to grouse, and to do as we are told uncomplainingly. Yet it would be a disaster if men of goodwill in the Home Guard, in resigning their right to "grouse," abandon all hope of obtaining a hearing when they have constructive points to make. At the time of writing I do not know what the Government's proposals for reorganising the Home Guard may comprise. I only wish to drive in one point. If it should entail the resignation and re-enlistment of active volunteers, do the authorities fully realise how much, in remote rural areas, the purely clerical work involved will interfere with the few precious weeks which remain for training before spring and the possibilities of invasion return? I will give one instance of how these clerical jobs involve loss of time in remote areas. It has taken four months (and the job is now not complete) to append to the enlistment forms of a single battalion each man's National Registration number. No doubt the regular soldier exclaims with horror upon "staff work" so shoddy, company "offices" so slack. Do they realise that platoon leaders may spend all the daylight hours of every weekday in London offices, and that the men under their command may be out of reach of their villages all the week between 6 a.m. and 7 p.m., and may live three or four miles from the village H.G. centre? Do they realise how many days it may take for a question asked by letter to be answered from a neighbouring village? Do they comprehend the deficiencies of telephone services, of lanes, of petrol supplies or of cars? Do they at all comprehend the physical and geographical difficulties in the way of getting a form completed by an uneducated labourer with whom contact may only be possible (with luck and at great trouble) on one day in every week? If those things are realised by those responsible for the new order in the H.G., and if they truly believe that invasion is possible in the spring, they should hesitate to enforce any large-scale reforms which will involve clerical labours or may otherwise mortgage to paper-reforms the few remaining and precious hours of training. If they do *not* realise these things even now . . . ?

THE OLD STAGER

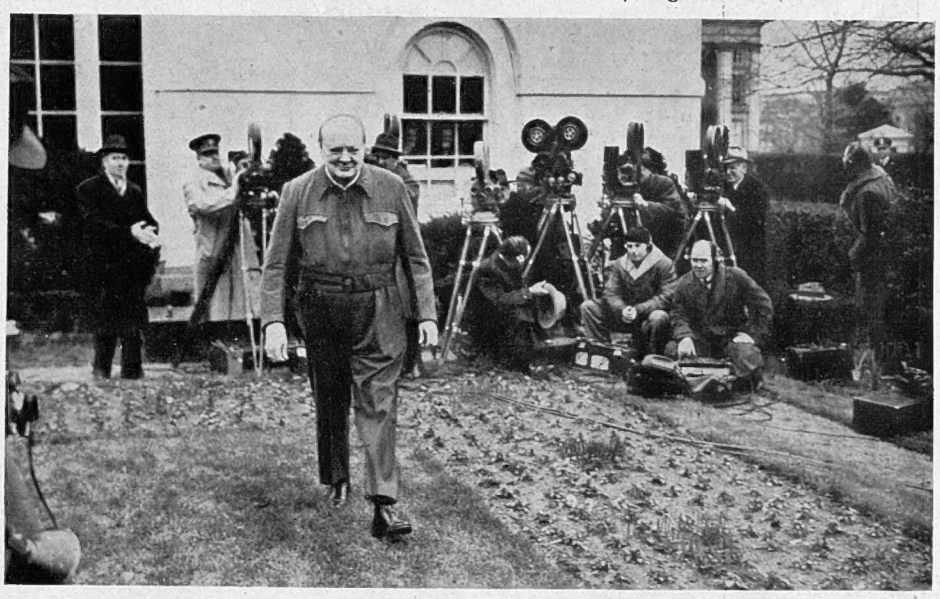
MR. CHURCHILL FLIES HOME

UPON HIS ARRIVAL AT BERMUDA FROM THE U.S., Mr. Winston Churchill visited the House of Assembly, where he addressed a meeting during his brief stay

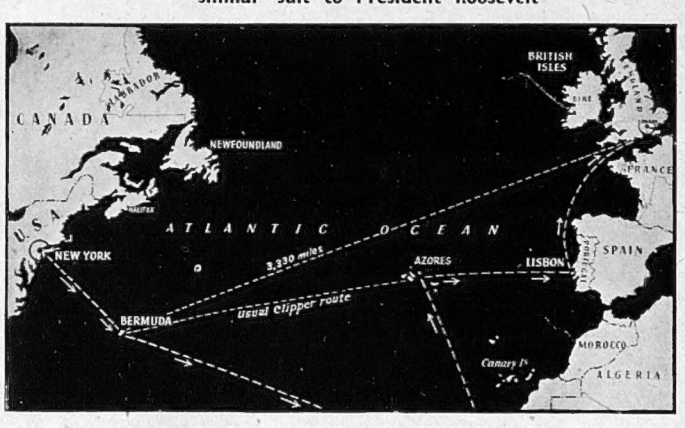
Upon his arrival at Hamilton, in Bermuda, the Prime Minister was met by Lord Knollys, the Governor. He then made a fifteen-minute speech before Parliament, during which he told of the "great and blessed accessions of help" which have come from China, Russia and the United States

INSIDE THE HUGE FLYING-BOAT: The Prime Minister chatting to Commander Kelly Rogers, the pilot

IN THE GROUNDS OF THE WHITE HOUSE, in his now famous "siren suit": The Prime Minister, behind whom is Mr. Harry Hopkins, displays his sartorial elegance. He has promised to send a similar suit to President Roosevelt



MR. CHURCHILL demonstrates his zip-fastened air-raid suit before a battery of cine-cameras in the grounds of the White House at Washington



THREE THOUSAND, THREE HUNDRED AND THIRTY MILES ACROSS THE ATLANTIC: The route of the Premier's homeward journey by flying-boat

The trip from Bermuda to Britain took 17 hours 55 minutes; the distance as the Berwick flew is 3,330 miles, so that the average speed was about 190 m.p.h. The usual Clipper route lies far to the south of that followed by the Prime Minister: the cross-Atlantic flying-boats making the journey by way of the Azores to Lisbon, and then on to England. By taking the direct route, the Prime Minister's party were out of sight of land for the whole passage. The aircraft which performed this feat is the Boeing 314 flying-boat "Berwick": its commander was Captain Kelly Rogers, O.B.E., of British Overseas Airways Corporation

SAFELY HOME: Mr. and Mrs. Churchill photographed on arrival at No. 10, Downing Street. The Prime Minister is wearing his Trinity House uniform and cap; on the left is his daughter, Mrs. Duncan Sandys

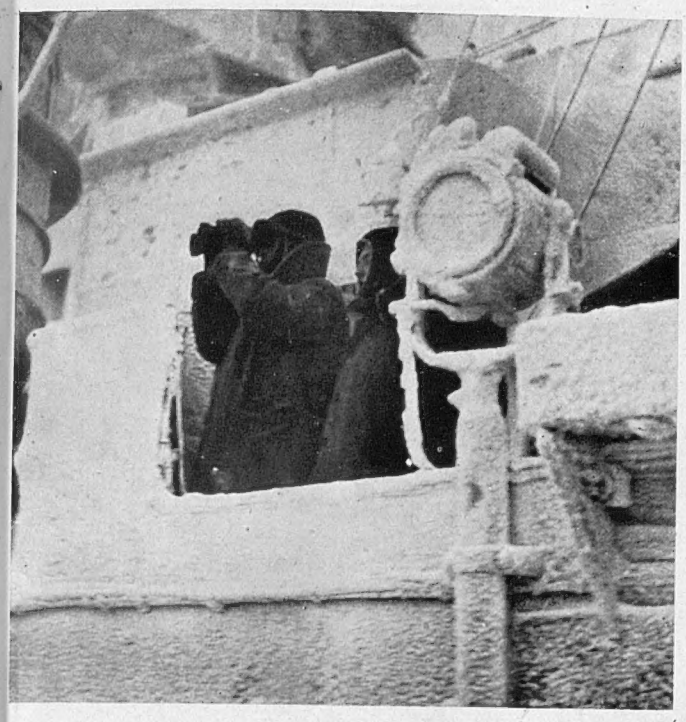
CONVOY TO RUSSIA: With a British Cruiser Escort on the Arctic "Life-line"

LOOKING FROM THE BRIDGE OF THE ESCORT CRUISER AS SHE BRINGS UP THE REAR OF THE CONVOY: The merchantmen are moving onwards towards the Arctic Circle and the northern gloom; on the cruiser's fo'c'sle a party of stokers have come up from below to de-ice the chains and the capstan with a jet of steam

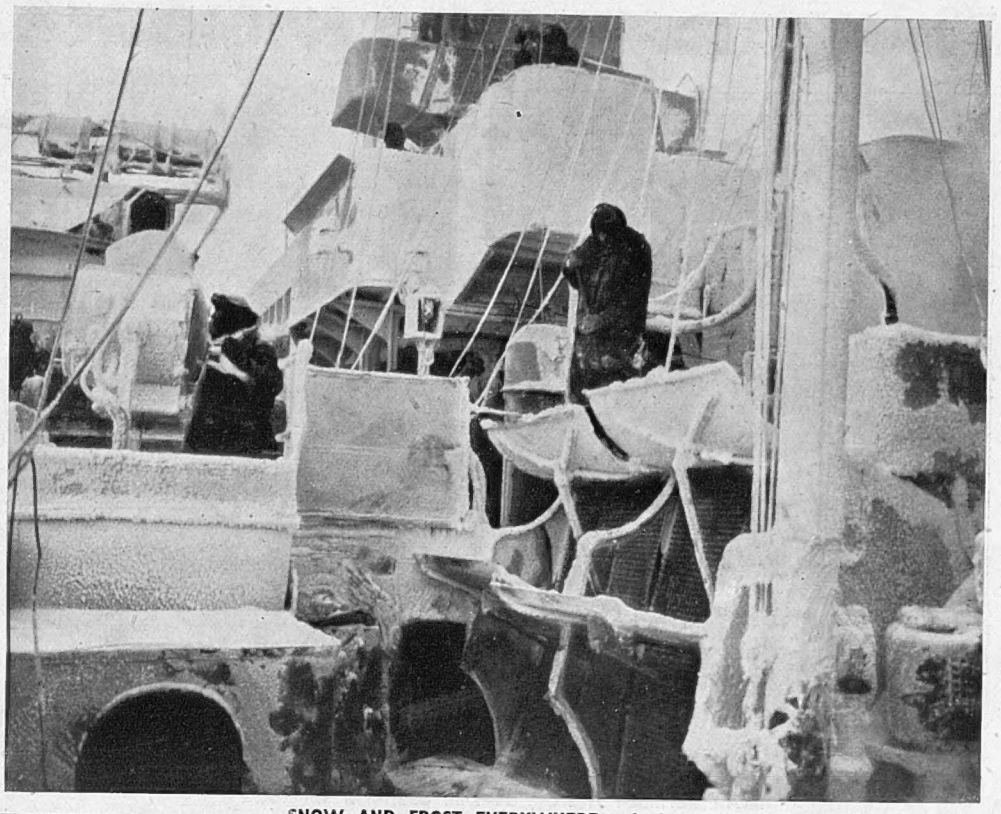
The pictures reproduced on these pages were all taken on board an escort cruiser which sailed with a Convoy of merchantmen—some of them Russian—heavily laden with supplies and munitions for the Red Army. Before setting out, the members of the crew all received an issue of Arctic clothing, in view of the exceptional conditions which would be encountered en route. The Convoy, escorted by British minesweepers, was met in the dark. And for the rest of the voyage the vessels remained almost in total darkness, for in these far-northern latitudes the sun is not seen for three months in winter—an hour or two of dawn, the twilight, then night again! As they near the coast of Russia, the temperature drops to 52 deg. of frost: the metal on the upper decks and the guns "burns" to the touch! For days a carefully-planned, zigzag course has to be followed, with the escort cruiser circling, shepherding, scouting, until the Russian port is safely reached.

A PARTY OF TORPEDO-MEN ON THE SNOW-COVERED DECK OF THE ESCORT CRUISER preparing to launch the very necessary anti-mine paravanes from the fo'c'sle

Besides almost continual darkness and extreme cold, fog adds to the discomfort—black fog, caused by the air being colder than the water. When a black fog settles, it is a signalman's job to keep the bell on the signal-bridge ringing every ten seconds



THE SIGNAL BRIDGE SNOWED UP: Everything within sight becomes coated with snow and ice as the Convoy pushes farther and farther north towards the Arctic Circle



SNOW AND FROST EVERYWHERE: And yet all vital positions must be manned by the hooded and shrouded crew throughout every moment of the voyage

STOKERS DON'T SPEND ALL THEIR TIME SWEATING IN THE BOWELS OF THE SHIP. They have a variety of jobs to do. Here are some of them on the icy fo'c'sle of the cruiser turning a jet of steam on to the frozen-up capstan

Taking Convoys to Arctic Russia in December and January is a cold job, and all personnel obliged to keep watches in the open are issued with Arctic clothing. Here is a look-out preparing to go on watch. He has a sheepskin greatcoat, sheepskin gloves, two balaclavas, two pairs of seaboot stockings and pullovers

IN ONE OF THE GUN-TURRETS AT MIDNIGHT: Twenty men, covered in their sheepskin and duffel coats, asleep at their posts, whilst condensation drips on them from the roof. They take it in turns to watch. This picture was taken in the gunhouse of the Royal Marines' turret

IN A RUSSIAN HARBOUR, the ship comes to anchor and awaits further sailing orders. In the background are the snow-covered hills of the Arctic

The JAP AIR ATTACKS on SINGAPORE

AFTER A JAPANESE BOMBING RAID ON THE BRITISH FORTRESS AND NAVAL BASE IN MALAYA: Native workmen clearing up raid debris in Singapore

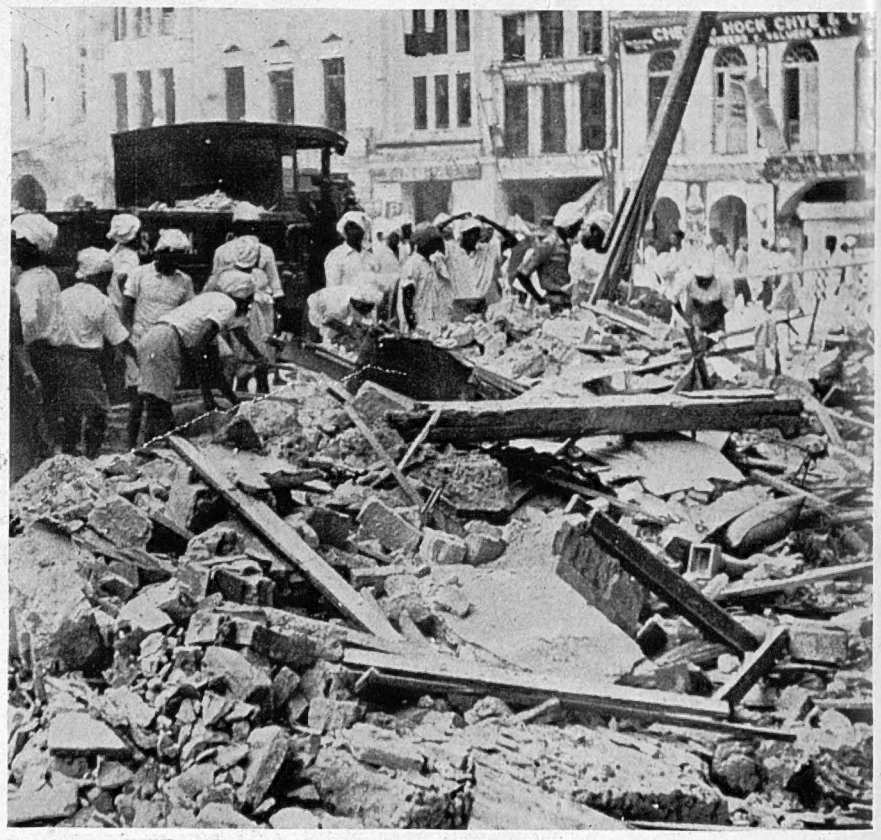
THE WRECKED TOWER OF A HEAVILY-BOMBED BUILDING: This picture, like all the others on this page, was taken by a British news-reel camera-man

SOME OF THE DWELLING-HOUSES WRECKED BY BOMBS: A number of these have been hit by the Japanese bombers

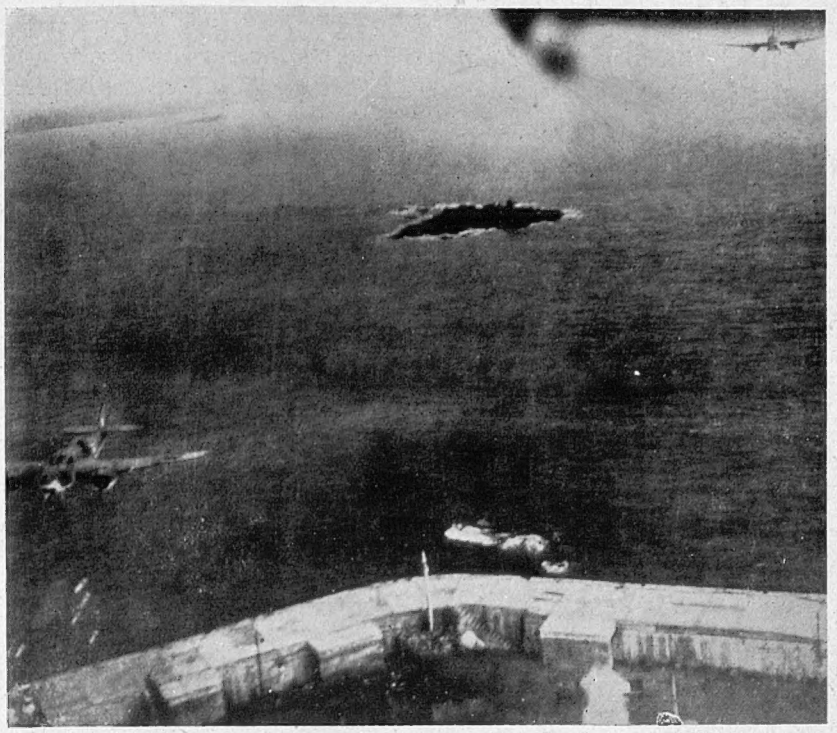
NATIVE TAMIL WORKMEN CLEARING UP SOME OF THE BOMB DEBRIS in the streets of Singapore

RAFFLES SQUARE, the "Piccadilly Circus" of Singapore and the heart of the city, after a raid

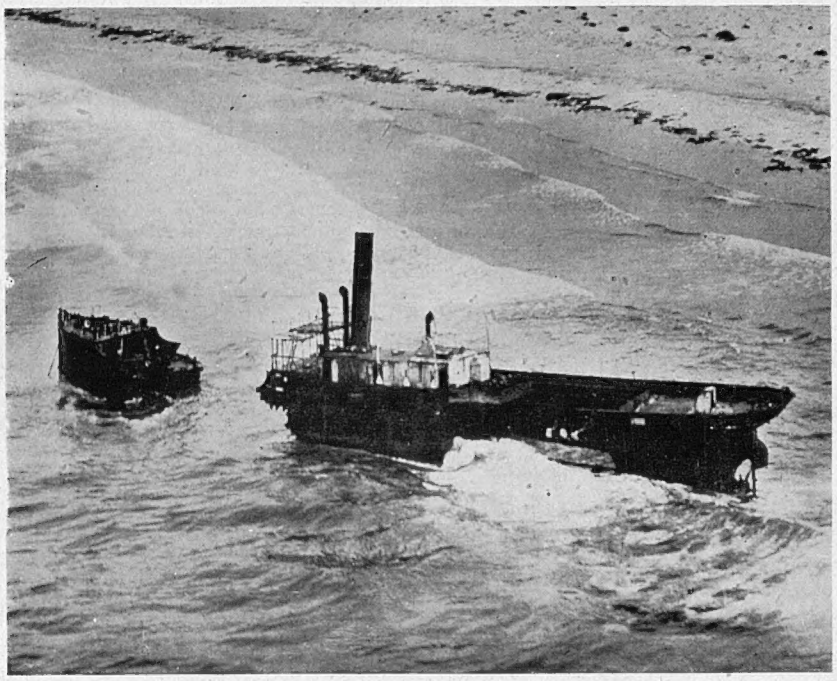
Now that the Japs have possession of most of the aerodromes in Malaya, some of which are only a short distance away as the aeroplane flies, Singapore has been experiencing a series of attacks from the air. The results of these are shown in the pictures on this page, the first to reach Britain from Malaya. As in the case of London in 1940 and 1941, it would appear that the bombers have been more concerned to wreak damage *anywhere* rather than to concentrate on localities which might help their war effort



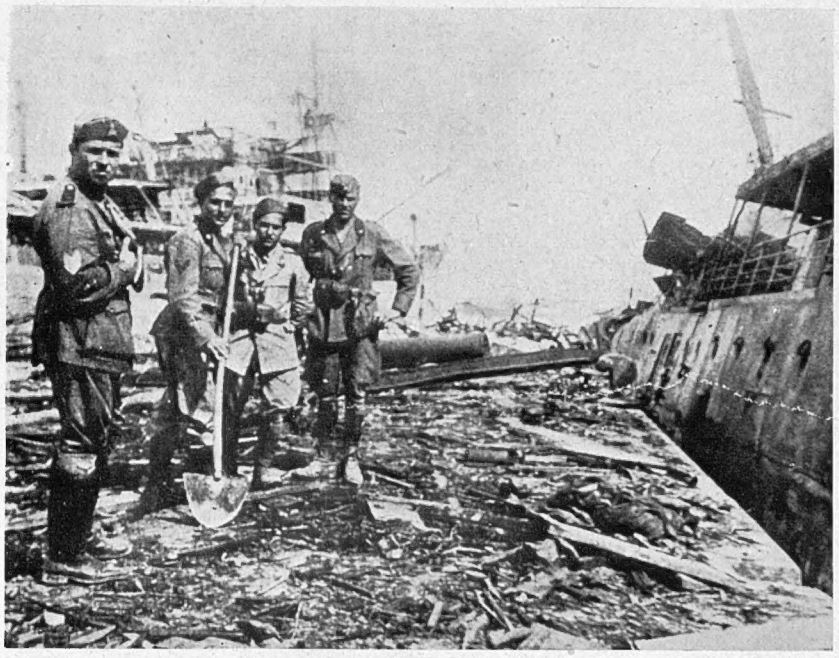
A SCENE REMINISCENT OF LONDON DURING THE "BLITZ": A street in Singapore as it appeared the morning after a Japanese air raid



THE R.A.F. MAKE A RAID ON GUERNSEY IN DAYLIGHT: The Beauforts attack St. Julian's Pier at its junction with White Rock Pier. The bombs can be seen falling from the aircraft in the left-hand corner, and smoke from an exploding bomb at the bottom



ONE OF THE RESULTS OF THE BOMBING OF TRIPOLI, IN NORTH AFRICA: An air view of an Axis supply ship, its back broken as the result of bomb attacks, washed up on the coast near the important supply centre of Tripoli

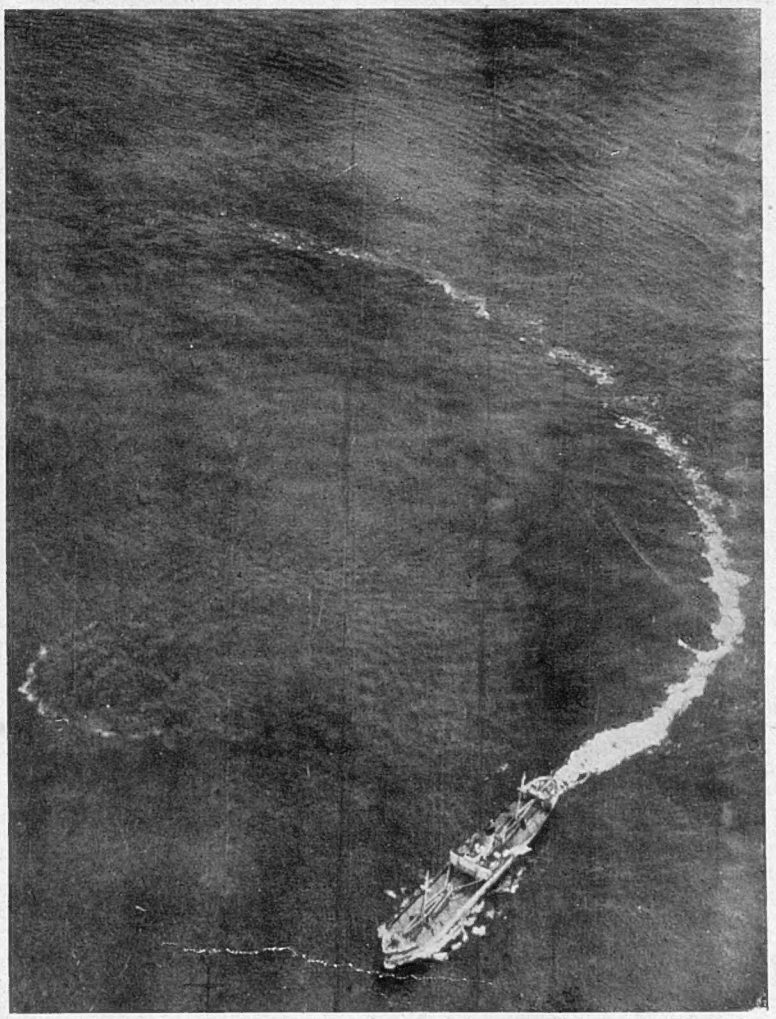


CLEARING UP THE MESS IN THE HARBOUR OF TRIPOLI: Axis troops clearing up the debris on the Spanish Mole after an R.A.F. raid. No sooner is one attack over, however, when another is carried out! Tripoli must be one of the most heavily bombed places in North Africa to-day

THE R.A.F. ON OFFENSIVE PATROL

THE CASTLE PIER AND THE OLD HARBOUR AT GUERNSEY under attack by Beauforts of the R.A.F. Coastal Command

German ships lying alongside the quays of St. Peter Port, Guernsey, were bombed in daylight on the 17th by Beaufort aircraft of Coastal Command. The aircraft afterwards swept over the island and chased German troops from a courtyard, following them with a hail of bullets. One aircraft flew so low over the harbour that it just missed the mast of a ship. Another dived on a German A.-A. post and silenced it. As the bombs fell the crews saw red flashes on the quayside, and columns of smoke and steam. A navigator said he saw German troops on the quayside as his aircraft went in to bomb. The next thing he saw was a red flash as the bombs burst nearby



THE ADVENTURES OF LIBERATOR "D" ("for Donald")—see notes below: The German ship takes avoiding action: on the left is the patch of oil from the U-boat which the surface vessel was refuelling

Painted on the nose of Liberator "D" of the Coastal Command is a picture of Donald Duck smashing a U-boat with a mallet. "D" more than lived up to its crest the other day, when, in quick succession, this Liberator shot up a Heinkel float plane; bombed a U-boat; attacked a ship; fought a second Heinkel; and damaged both German aircraft.

The Liberator, taking off well before dawn, had patrolled the Bay of Biscay all day without result. The appearance of a Heinkel 115 float plane was welcomed as a relief from the tedium. The Heinkel spent the next 12 minutes trying to escape. Ten minutes later as they were flying under the cloud base the rear gunner yelled—"Big ship below!" There on the sea was a German ship—and what was more, it had a U-boat right beside it.

The Liberator swept down steeply and a pattern of bombs appeared on the sea. The pilot raked the conning-tower and hull with cannon shells. The bombs went off all round the submarine, and a few seconds later it had disappeared from sight. It left behind a spreading patch of brown oil, 200 ft. wide and still growing.

The Liberator climbed again and the crew gave their attention to the ship. Suddenly there was an interruption. A second Heinkel appeared. The action continued for 25 minutes until the Heinkel came in for the fourth time and received what was probably mortal damage.

"We turned our attention to the ship again," said the pilot, "and made a last, leisurely attack. We had no more bombs, so we raked it with everything we had. It was an uncanny business, for we never saw a soul on board from beginning to end. Finally she made a half-moon of foam, with the U-boat oil patch in the middle"

DAKAR—and the BATTLE of the SOUTH ATLANTIC

With the Pan-American Conference at Rio de Janeiro Debating Axis Activities in South America, a New Review of the Threat to Their Security from Dakar, Vichy's Stronghold in Africa, is of Importance. Here are New Facts and Figures by

FERDINAND TUOHY

"WALTER LIPPMANN suggests in his syndicated column to-day that the Nazi threat to West Africa and South America, which he calls 'the Battle of the South Atlantic,' is just as important as the Nazi threat to cut the United States-British supply line, which might be called 'the Battle of the North Atlantic.' He does not consider that Hitler's drive to control the South Atlantic will be launched till after the Russian campaign. Meanwhile, states Mr. Lippmann, 'this side of the Atlantic he organises revolutionary conspiracies to set up Quisling governments, and on the other side of the Atlantic he cajoles and coerces General Franco and the Portuguese Government to prepare and hold for him till he is ready to use them military bases in the islands and on the coasts of Africa.'

"With bases in French Africa and Quisling tools somewhere in Latin America, the South Atlantic could be easily controlled, Mr. Lippmann points out. Hitler's chief worry is that the United States may anticipate the Nazi moves by establishing itself at strategic outposts of the southern Atlantic in the same way that it has protected the northern Atlantic by the occupation of Iceland. Though the Administration is fully aware of the dangers so discussed, there is no sign that it would occupy Portuguese or Spanish territory unless or until the Germans march on the Iberian Peninsula. Then steps would undoubtedly be taken immediately."

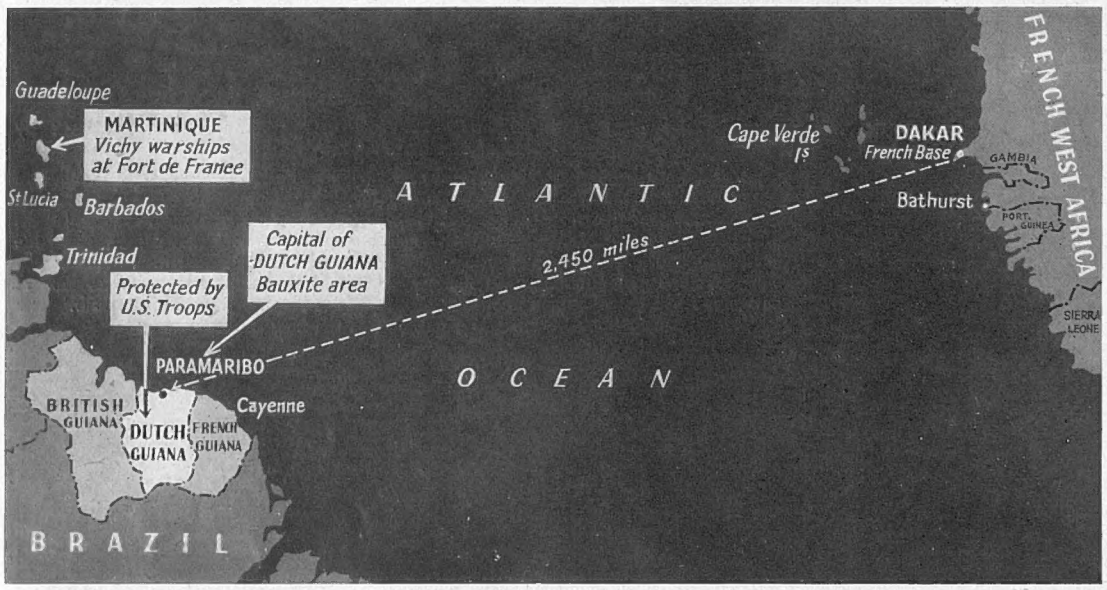
I have kept this quotation by me for four months and now produce it because it seems to be considerably more apposite to-day than when made last September. To begin with, Hitler's Russian campaign—the one Lippmann referred to—is certainly over. Secondly, the Axis is doing the reverse of abating its attentions to Latin America. Thirdly, the cajoling and coercing of Franco and Salazar continue. Fourthly, the U.S. is developing West African links with the Nile and whole Middle East. But my fifth reason for reproducing my one-time Editor is the biggest: the entry of Japan into the war.

This event and its attendant circumstances so adverse to the United Nations must draw Hitler to the South Atlantic more compellingly than ever he could have imagined. Where else can he come nearer to co-operating with his Japanese allies? Junction somewhere near Basra? Too far ahead! But up and down the South Atlantic sails one increasing quantity of American, British and Allied shipping carrying vital supplies for General Wavell, General Auchinleck, for Britain and for Russia. So it will have to be; we shall all have to continue rounding the Cape, until we command the Sicilian Narrows and are able to use the Suez Canal. Between Pernambuco and the Cape Verde Islands all this shipping has to go through oceanic "narrows" which, though 1,600 miles in width, could none the less be made most unhealthy by an enemy able freely to send out bombers and U-boats and maybe surface raiders from a West African base.

But Hitler in possession of such a base could do more than that in the way of stretching out towards the Japanese. These are already reported as "ghosting" off South American coasts on the Pacific side, and we may be sure that such reports will not grow less. If Hitler could similarly dangle his presence over South America on the Atlantic side, not to mention over the Caribbean shielding the Panama Canal, the effect could only be twofold: South America would become less resolute in its anti-Axis affirmations, and the United States would have to do some further thinking about Hemisphere Defence, calculated to draw off American strength which would otherwise be pitted directly against Hitler and Japan.

In brief, if Hitler was interested in West Africa long before Japan started fighting America, his interest must since have mounted rapidly.

The trouble is that if the Nazis did decide to risk taking outward possession of Dakar, the first we should probably hear of it would be the *fait accompli*. And once again the democracies would bemoan not having taken forestalling action. It would be too late to take those "immediate steps." The steps we would then have to take would rather concern Bathurst, Freetown and Lagos, even Monrovia—to see they weren't "Pearl Harboured" from Dakar.



THE PROBLEM OF DAKAR SET OUT IN ITS SIMPLEST FORM: Dakar is the nearest point between Africa and the South American coast. It is known that Hitler insists on its retention by the Vichy Government—obviously for good reasons of his own! What these reasons are should be obvious from this simple diagram! Through Dakar, Hitler could strike at almost any point in the South Atlantic; through Dakar, he could threaten the bauxite area of Dutch Guiana (now garrisoned by United States troops), or reinforce Martinique, or perpetually menace British and American interests over a wide area. No wonder Dakar is being held so firmly by Vichy—under Hitler's orders!

Aerial observation could be maintained on Dakar from not far away, and it is just as well, because the plain truth is that the Dakar garrison cannot be trusted an inch. Pierre Boisson, the Vichy Governor-General of French West Africa (capital Dakar), repeats the empty formula that he will attack anybody—*anybody*—who tries to gate-crash. Yet it is hard indeed to visualise this Fascist head of a hand-picked Fascist nest resisting "collaboration" with the head of the Axis. He would fight the hated British and de Gaullists—yes. There might be difficulty in keeping all ranks vigorously opposing Americans. (If we should ever come to blows with Dakar, it would be a good idea to include a solid leavening of coloured U.S. troops and a Soviet warship or two to entice French naval ratings.)

But if Hitler called, why expect anything else of Boisson and his kind than that they should "collaborate," as they have not ceased doing with Nazi agents and controllers who have watched for months the steady arrival at Dakar of war supplies and equipment sent thither by Darlan with the kind permission of Nazi Colonel Ott at Marseilles? Boisson would, of course, much prefer nothing at all to happen at Dakar, and that it should just slide quietly back to France, but things are not falling out that way. Witness Syria. Witness Indo-China. Witness—which part of the French Empire next?

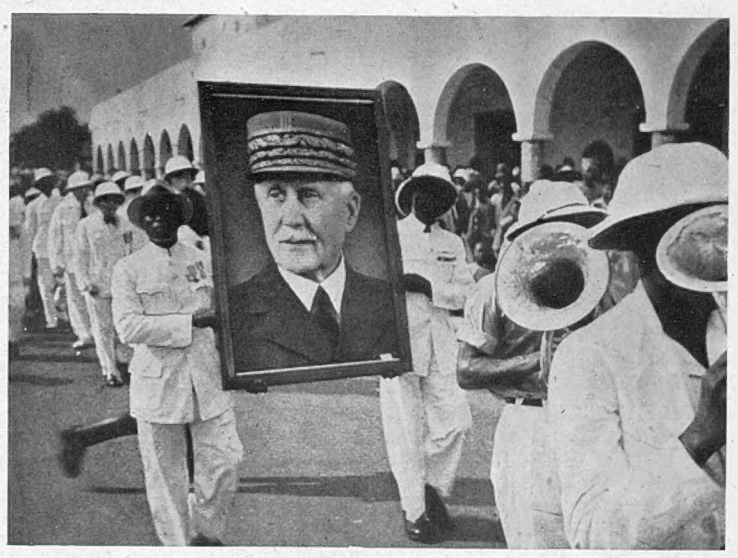
Maybe the Americans are working on a written promise from Pétain that "if you leave the French Empire alone I'll see that the Axis doesn't tread it and that the French Fleet will remain outside the rest of the war," but the fact is that currently Vichy hasn't the strength to keep the Axis out of the French Empire.

German-controlled war equipment known to have reached Dakar includes coastal and A.-A. guns, searchlight batteries, mines, dismantled submarines of 80 and 120 tons, and E-boats or "small torpedo-boats." Some of these have been assembled at the Lyautey yards at Casablanca. Junkers are also said to have flown down, carrying basic *Luftwaffe* requisites, particularly for the long-distance Focke-Wulf bomber-scouters. Some sources insist that a nucleus of the Condor Legion is lying low in Senegal, but more temperate reports suggest that if any of this flying circus is in French Africa it is more likely to be spread out, waiting, at such ports as Casablanca, Mogador and Agadir. Of course, Vichy and Dakar deny everything, but their denials are of as much value as the highly-coloured stories of Nazi strength reputed to be already on the scene.

There has been no great transport difficulty in getting war supplies down to Dakar. Delicate equipment has gone by air, flown also by French air units specially recruited for their pro-Darlan, Fascist sentiments. Main shipments have been made from Séte, La Nouvelle and Port Vendres. In order to avoid interception, some vessels cling close to the Spanish coast as far as Carthagena, then shoot across to Oran in little more than a night. From Oran freight trains run to Casablanca and Marrakesh, from either of which places motor roads continue several hundred kilometres south as far as Tafni. From Tafni to Dakar, 600 miles distant, there is a desert track, but good enough to bear a regular passenger-and-freight service, as Vichy announced last summer. I was at Tafni three months before the war and wanted to go on. But they said Franco's Rio de Oro, which runs for 200 miles on the coast side of the desert track, was apt to be troublesome to holders of British passports and that convoying would be imperative; and that was too expensive.

What I wish to emphasise is that Dakar may look cut off, but in fact is not; that it has ample means of getting what Darlan or Hitler or whoever it is, thinks is good for it.

The latest interest shown in Senegal by the Germans has been the release and repatriation of many Senegalese prisoners of war. The Nazis are also supplying materials for the trans-Saharan railway, which is intended to link Dakar with Oran. The French supply native labour, topped off by the slavery of hapless "Jews and Communists and anti-social forces" from Vichy concentration camps. Many of these men fought in the International Brigade, whose purpose was the extermination of Fascism and Nazi-ism.



VICHY TAKES A LEAF FROM MUSSOLINI'S BOOK: This picture shows a "demonstration of loyalty to the French Vichy Government" by negro natives of the French West African colony, who paraded through the streets of Dakar recently bearing this portrait of Marshal Phillipe Pétain. In the somewhat idealised portrait of the Marshal, and in the organisation of the parade, it would almost seem as if Vichy is following the lead set by Mussolini and the Fascist Party over a period of years in arranging "spontaneous" gestures of this sort!

Aside from its commanding situation between Western Europe and Brazil and South Africa, and as a great air cross-roads and maritime centre, Dakar would be a rich piece of loot for Hitler. It is the capital of a territory which holds a population of fourteen millions, and which produces a long list, including gum, cotton, gold, sisal, rubber, hides, timber, nuts, cocoa, bananas and various weirdly-named minerals. Dakar has been French for eighty years, but it wasn't until after the last war that it really shot ahead. The advent of commercial aviation and the increased importance of South America chiefly did that. It was decided to develop Dakar into a first-class affair, a fine modern city of broad and regular streets and all the amenities of "Paname" (Paris) overseas. A good water-supply was laid down. Malaria, yellow fever and sleeping sickness were banished among the preponderant Berber and Negroid population. In tiny Dakar Dependency itself, which used to be self-governing, natives numbered about 120,000 a few years ago, and whites in the region of 10,000, of whom some 7,000 were French. My one-time hotelier at Cannes spent twenty years at Dakar and used to tell me all about them. The best season is now, when for several months the dry Harmattan blows from the Sahara and is not disagreeable compared with the moist heat of the period which is our summer.

A STERN VIEW OF THE MIDGET SUBMARINE : The portion rammed by the destroyer is clearly seen on the left. The "washboard" effect on the vessel's plating was caused by depth-charges beating against the hull. The submarine was rammed, shelled and battered with depth-charges before it was captured by the U.S. Navy and beached. The vessel's propeller is lying in the left foreground. The plates of the submarine are stated to be ¼ in. in thickness

THE TWO-MAN SUBMARINE

Further Pictures from Hawaii of the Japanese Craft which was Shelled, Rammed and Sunk by the Americans at Pearl Harbour

THE BOW VIEW : Showing the wreckage of the portion just forward of the conning-tower

When Pearl Harbour was attacked by the Japanese within a very short while after the actual declaration of war, part of the havoc wrought amongst the American vessels at anchor was caused by the two-man submarines which the Japs had possessed for some years. The pictures reproduced here show three views of one of these vessels, as released by the U.S. Navy Department : the length of the midget craft is surprising—they are 41 ft. in length, cigar-shaped, and with only one protuberance—that of the conning-tower. The propellers were geared to a 100-h.p. Diesel engine. The vessel had a cruising range of 200 miles, and carried a 300-lb. charge of high explosive, as well as two 18-in. torpedoes. As our three pictures show, the submarine was badly battered by the depth-charges launched at her, and this particular specimen was also rammed in the stern

On left—THE SHELL-HOLE IN THE CONNING-TOWER : Only comparatively thin plating (¼ in. in thickness) was employed in the construction of the submarine, and this has been badly buckled, principally by the effect of the depth-charges and by ramming

THE WAR EXTENDS TO THE DUTCH EAST INDIES

SUMATRA, THE RICH DUTCH ISLAND TO THE SOUTH OF SINGAPORE AND THE MALACCA STRAIT: In the strategic grouping of the Dutch East Indian chain of islands, Sumatra holds the westerly position. It has already experienced attack by the Japanese—*A special Sphere map*

Of the larger islands of the Dutch East Indies group, Borneo was placed in danger by the Japanere occupation of Tarakan Island, Sumatra by the advance of the Japanese armies down the west coast of Malaya just across the Straits of Malacca. The island as a whole is not so well known to Westerners as some other smaller parts of the Dutch possessions in the East Indies; but as a landing-point on the newly-developed air trunk routes it was becoming familiar to travellers by air, especially at its north-western end around the region of the rapidly-developing airport of Medan. This is the island's largest and best-equipped aerodrome: it has Belawan nearby as its associated port. Other aerodromes are grouped mainly in the northern half of the island, the whole of which is heavily forested, with spinal mountain ridges running from the north-west to the south-east. From the above map it will be seen that the main rivers flow to the north-east from one of these spines. Padang and Benkoelen are important towns: the first is linked by road and rail to Medan and the north, while Benkoelen has motor road and rail connections with Palembang, the oil centre to the south-east. Benkoelen is important historically as being the last place handed over to the Dutch after the general restoration of the Dutch East Indian possessions by Britain in 1816

A NEW VIEW OF SINGAPORE, focal point in the Far East: This picture was taken recently by an American lecturer during a trip to the Orient just before the outbreak of the war with Japan. It shows how amazingly modern is the aspect of the European portion of the great Far Eastern city and harbour

THE THREAT TO SUMATRA

And Its Strategic Significance

THE war in the Pacific has moved so unexpectedly—in the sense of successes for the Japanese—that we are apt to overlook some of its features. Thus we have been preoccupied to such an extent with the main fighting in the Philippines and Malaya, and the threat to Singapore, that the Japanese bombing of Medan in Sumatra has not attracted the popular attention. Yet it is highly significant, and may well point to the future course of the Japanese campaign in the south.

The map is needed here. Just pick out Selangor on the western coast of Malaya, then find the great island of Sumatra across the Straits of Malacca to the south-west of that. It is not a difficult job. Nor is it particularly hard for the Japanese to hop across that narrow waterway and raid Medan, Deli, Belawan and other Sumatran centres either with bombs or with air-borne guns and men. But what is the point in that, when Japanese lines are already far extended, and the big job of investing Singapore still lies a long distance before our new enemy?

The answer is, unfortunately, simple, though divided into two parts. First, this suddenly-exposed island of Sumatra contains just the oil and rubber which constitute a principal object of economically-weak Japan's southwards drive. Second, a foothold on the island would enable the enemy not only to develop a pincers movement on Singapore, but also finally to deny the vital Straits of Malacca to our shipping.

It was at Deli in 1884 that the world-renowned Royal Batavian Petroleum Company made its first successful East Indian borings. In the course of years the oilfields have been enormously extended. Principal plants are at Pangkalan Brandan and Pangkalan Susu, to which the oil is brought from the fields by pipe-lines and pumps. Here are also to be found, among other things, a refinery, a tin factory and tanks for storage. The production recently was about 500,000,000 gallons a year, with a fair amount of aviation spirit among it. The other Dutch East Indian oil wells are in Borneo, now attacked.

So it can be seen that the Japanese, some 100 miles only across the Straits of Malacca in Malaya, will undoubtedly give some real attention to the Deli Province of Sumatra in the near future. But what sort of a reception will they get?

That depends very much on the way the Dutch authorities have planned to defend this most valuable of their colonial possessions. Provided they have

Drawing by E. G. Lambert

BATAVIA, ON THE ISLAND OF JAVA, capital of the Dutch islands in the East Indies and an important strategical point in the Far Eastern war area

The islands of the Dutch East Indies, from their geographical position as a continuous string stretching from opposite Malaya to the north of Australia, are assuming a greater importance as the theatre of operations becomes extended. The bird's-eye view given here shows the western end of Java, with Batavia, its capital city, in the immediate foreground on the right. This thriving centre of Dutch activity dates from the early years of the seventeenth century, when ships from the Low Countries first ventured into these waters. The Dutch shipping lines of to-day have continued to link the island possessions of the Netherlands with Great Britain. Batavia itself possesses a large roadstead and an outer harbour at Tanjang Priok. Ships approach from the west through the Sunda Strait or by way of Singapore, which is some 500 miles away. This last-named route passes the rich tin islands of Banka and Billiton. To the east lies Surabaya, chief naval port of the Dutch East Indies

ONE OF THE LURES FOR THE JAPANESE on the island of Sumatra: the big oil-storage tanks at Palembang

THE CAPITAL OF THE DUTCH EAST INDIES: A view of the city of Batavia, chief emporium of the Islands. The modern city, built above the old town on higher ground, contains the European residential quarter and the chief public buildings

plenty of aircraft, mines, coastal-defence guns and small naval vessels along the coast, they should be able to repulse sea attacks on the smallish scale likely to be raised by the extended Japanese. Sumatra is hardly so near to the main Japanese bases as the Philippines. But it is to be hoped that the Dutch General Staff will not overlook the lessons of previous campaigns.

In this respect Sumatra, particularly the Deli Province, is exceptionally well provided. You land at Balawan expecting to find all the glamour and muddle of the most exotic East. You find instead a superb trunk road leading from a modern port to an even larger highway which runs the entire length of the Province some miles in from the coast. This links not only the main oil centres and rubber towns, but also the remarkable network of airports which Sumatra possesses.

By far the largest and best-equipped of these ports is the one at Medan, which has complete direction-finding radio equipment and night illumination services—and which has already been the object of several Japanese bombing raids. It was formerly a main landing-ground of the highly efficient Royal Dutch and Royal Netherlands Indies Air Lines. But there are other fine aerodromes at Brastagi, Labuan Ruku, Kota Pinang, Kot Tengah and Pakan Baru.

Thus Sumatra would be the ideal target for an air-borne invasion. As said, it all depends upon the strength of aircraft that the Dutch themselves can deploy in defence—and on the way they use them.

D. C.

On right—**STIMULANTS AND FOODSTUFFS FOR THE JAPANESE AIRMEN WHO BOMBED PEARL HARBOUR:** These articles were recovered from some of the Japanese aircraft shot down over Hawaii on December 7. Amongst the special concentrated foodstuffs were bottles of "Rare old Island whisky" (in centre background), cider pop (to right of whisky), calorific candy, chocolate paste impregnated with whisky, iron rations (on left), tooth powder (in flat round tin in front centre), and (at extreme right) the inevitable chopsticks

THE STRENGTH AND THE WEAKNESS OF AUSTRALIA'S DEFENSIVE SCHEME: A big Defence Force of Army and Air Force units, but a huge area to protect and a vast coastline

The main ports are guarded in adequate force; the Air Force and Army are large and well-found. But Australia has a coastline of some 13,000 miles to protect: and she has vast areas which are only sparsely populated. Between Perth, to the west, and Adelaide, the nearest big town, are hundreds of miles of emptiness! Up in the vulnerable north-east corner of the continent a raiding force could be opposed by an army of 300,000 men. Will this be sufficient? (See *the accompanying notes by Mr. Donald Cowie*)

IS AUSTRALIA IN DANGER?

A Series of Questions which have been answered by DONALD COWIE *(an Authority on Pacific Defence)*

COULD Japan invade Australia? This depends on the outcome of the present operations in the north, but it should be remembered that the distance between the two countries is greater than the span of the North Atlantic Ocean: approximately 3,500 miles separate Tokyo from Cape York.

But What About Japanese Islands? Yes, bases in the Pelew and Caroline Islands—about 1,200 miles from Australia—and in the Marshalls, 2,500 miles away, could be used for rest-calls and replenishment of supplies. An army of 100,000 could be carried to Australia thus, and sustained en route.

What Routes Could an Armada Take? There are two available: one down the open ocean, skirting Guam and the Carolines, making Australia via the eastern end of New Guinea; the other leading much nearer the Philippines, via the Banda Sea to North Australia. But, *N.B.*, both routes would bring the expedition in constant range of guns, bombs, torpedoes and mines of the British, American, Dutch and Australian warships and aircraft operating from many bases.

But Surely Australia Has Grave Strategic Weaknesses? Yes; here is a continent 2,974,581 square miles in area, with a coastline of 13,000 miles, but with a population of only 7,000,000—as big as Europe, but with less population than London! Obvious weaknesses are the empty areas in the north, where the invaders might establish bridgeheads, together with poor communications, making it difficult for the defenders to reach danger spots quickly.

And is That All Australia Has Got? Not quite. It might have been a few years ago. Then Australia had only cadres of an army, a skeleton air force, and out-of-date equipment without munitions industries. Now she has: (1) about 500,000 men under arms, with about 400,000 of those still at home; (2) an Air Force of several thousand machines, with thousands of men, against a few hundred machines and only 2,000 men before the war; (3) complete self-sufficiency in many munitions. All the main ports and danger areas of the coast bristle to-day with guns, booms, mines, and radio stations. Darwin, at the north, is nearly as good now as is Scapa Flow.

So You Think Australia Could Repulse an Invasion Immediately? Not quite immediately, perhaps, but in sufficient time. That is, against an armada of some 100,000 men and two aircraft-carriers, with about 80 aircraft each, Australia could oppose a defending army of some 300,000 men and several thousand aircraft—without counting naval defence.

Australia, Then, Has Nothing to Fear? It would be pleasant to think so. Unfortunately, she has everything to fear, from raiders, from developments in the Northern Pacific situation, and, lastly, but not leastly, from armchair strategists like you and me.

You Had Better Explain That. I will. (1) The raiders. These will be of two kinds, sea and air. The first may dash in to batter Australian ports, and they will certainly interfere gravely with Australia's vital sea-lanes to India and Africa, to America and to us. Air raiders will do the same; they may also bomb the big Australian cities.

Then (2) the danger from developments in the north. Supposing the Japanese defeated our combined naval and air forces in the Pacific. Then they could mount a huge armada for Australia at their leisure. If they slowly penetrated southwards, they would eventually be ensconced on Australia's very doorstep.

And (3) the danger from armchair strategists like you and me. We take the facts as we get them, and use our knowledge and common sense. But can we always rely on the facts, and do knowledge and common sense always actuate strategists on the spot?

"NOT THE FAR EAST ONLY—NOW THE NEAR NORTH"—*Mr. R. G. Menzies*. Australia's seawise connections with the world, and her proximity to Singapore and the coveted Dutch possessions in the East Indies

When this map was first published in *The Sphere* in March 1941 we made the following comments: "There are 7,000,000 inhabitants of the great Australian continent; and this does not include the Dominion of New Zealand, whose problems of defence are, of course, linked with those of her bigger neighbour. From Hong Kong to Sydney is a distance of well over 3,000 miles, and Japan is equally far off: but by the activities of the latter in Indo-China and in the Gulf of Siam, Japan has brought herself very much closer to Singapore and to Australia. It is essential that Australia's seawise communications should be kept free, and to this end the Commonwealth is vitally interested in maintaining the great fortress of Singapore and in preserving the integrity of the rich and productive East Indies, on which Japan has been casting covetous eyes. . . . The interests of the United States in the Southern Pacific are, of course, vast and important." Subsequent events in this area have justified these statements, made nearly ten months ago!

LIEUT.-GENERAL SIR HENRY POWNALL, newly-appointed Chief of Staff to General Wavell. Pacific strategy now becomes part of his job and, in this, Australia's needs will closely be watched by him

AUSTRALIA'S CABINET IN SESSION: A first picture of the men who are holding office under Mr. Curtin, the Labour Prime Minister, who has been very outspoken of the British effort in connection with the war in the Pacific Ocean

Mr. John Curtin is seen on the right, wearing glasses and looking at the camera; reading round the table from his left hand are the following—Mr. J. B. Chifley (Treasurer); Mr. J. A. Beasley (Supply); Senator W. P. Ashley (Postmaster-General); Mr. A. S. Drakeford (Air Minister); Mr. E. J. Holloway (Health and Social Services); Senator R. V. Keane (Customs); Mr. E. J. Ward (Labour Minister); Mr. S. Lawson (Transport); Mr. J. J. Dedman (War Industry); Mr. C. W. Frost (Repatriation); Mr. H. P. Lazzarini (Home Security); Senator D. Cameron (Aircraft Production); Mr. N. J. O. Makin (Navy and Munitions); Mr. W. J. Scully (Commerce); Senator J. S. Collings (Interior); Dr. H. V. Evatt (Attorney-General); and Mr. F. M. Forde (Army)

CAPE YORK AND THE GULF OF CARPENTARIA

A Note by DOUGLAS GLEN

THE Japanese successes in the Far East have brought Australia within measurable distance of direct attack, causing Mr. R. G. Menzies, Commonwealth Prime Minister until last August, to declare that "Australia will almost certainly be attacked."

Indeed, the Dominion, although it is considerably more than 3,000 miles from Japan proper, is now right in the war zone and very near the scenes of the latest Japanese landings. Were the enemy to succeed in establishing himself firmly on the Celebes, Borneo, or the islands of the Dutch East Indies, he would gain—in addition to immensely valuable sources of vital war supplies—bases near enough to provide admirable jumping-off grounds for attacks on the north and north-west of the continent. The Celebes Islands are less than 1,000 miles away from Darwin, Port Essington and Wyndham, whilst Borneo and the southernmost islands of the Philippines are respectively but 1,200 and 1,300 miles distant.

Further east, in Queensland, Cape York is separated from Papua, in New Guinea, only by the Torres Straits, which are less than 100 miles across. It lies east of the great Gulf of Carpentaria, and is the most northerly point of the whole mainland. Beyond it, across Endeavour Strait, is Thursday Island, the resort of pearl fishers and an important port of call for ships passing through the Arafura Sea and Torres Straits. It has given its name to the high peninsula which thrusts upwards on the map almost to within 10 degrees of the Equator.

Over the eastern part of Cape York peninsula and northwards from Cooktown—where James Cook stayed in 1770 on the voyage that discovered Australia—the coastal bush is both dense and dangerous, and there has been but little settlement, except near the Cape itself. Along the seaward side of this coast, too, and south for a distance of twelve hundred miles, runs the Great Barrier Reef, inside which, from north of Cook's Passage, seaborne traffic bound for Torres Strait and Thursday Island, pass it. The Peninsula therefore offers little scope for Japanese penetration.

The Peninsula is mainly a flat plain rising near the east coast to the Bellenden Ker mountains, which form the northern end of the Great Dividing Range—a chain of mountains running almost continuously south through the continent to Victoria. The heights form a watershed for a number of rivers, most of which empty into the Gulf of Carpentaria. In the wet season they overflow their banks, and large tracts are under water. Many of them are quite unnavigable and full of crocodiles, but the Fitzroy is navigable for about thirty-five miles to Rockhampton, an important cattle-rearing and coal-mining centre. Further south a railway runs across the Peninsula from the mining centre of Clancurry to the port of Townsville, between which there is also a regular air service.

Townsville also serves extensive canefields and cattle holdings, some of which comprise more than fifty thousand head. On the Atherton Plateau, behind the Bellenden Ker Range, and extending into Northern Territory, there is abundance of tin, copper and wolfram, and at Croydon, near Normanton, there are gold- and silver-mines served by railway.

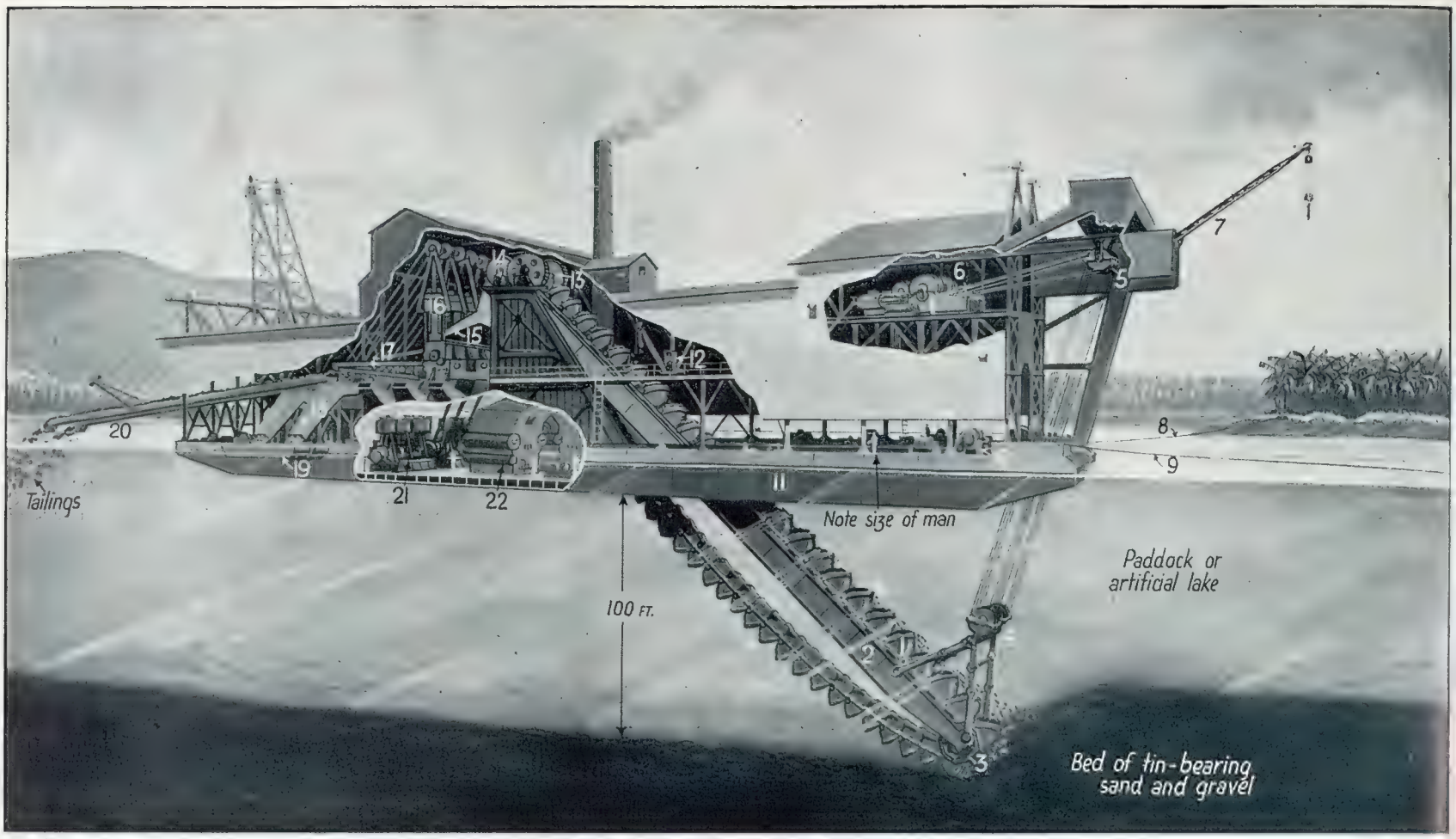
Temperatures vary between 65 and 85 degrees, and the rainfall is high, the period of greatest precipitation occurring between November and April when most of the western region and, in fact, nearly all the coastal area of the Gulf of Carpentaria are flooded. Queensland suffers from devastating hurricanes once or twice a year. The shores of the Gulf, which are largely mangrove swamps, have afforded but little scope for settlers until Darwin is reached, but on the vast Barkly Tableland there is excellent cattle country, and Roper River is navigable for nearly one hundred miles. Darwin has several claims to importance, not the least of which is its fame as an airport and a place of call on the airway to Melbourne. It is also the terminus of the long-projected railway cutting through the middle of the continent and connecting with the trans-continental line in the south, and it is the seat of Government of Northern Australia. Behind it lies the huge, barren expanse of Western and Central Australia, with its lack of water, its high rate of evaporation and its unfertile soil.

The riddle of the Australian aborigines is one of science's unsolved mysteries. All are backward and more undeveloped than other coloured races. They are nomads and exceedingly primitive, accustomed to live by hunting, fishing and on the natural fruits.

In Northern and Western Australia they are still hostile to white men, but on the Peninsula of Cape York they are on the whole friendly. Their numbers have dwindled most rapidly in the south, and now there are probably fewer than 60,000 aborigines in the whole of Australia, though protective measures have been taken during the last fifty years or more for their preservation. It is possible that they are of Dravidian origin, reaching Australia from Milanesia or the Asiatic mainland by way of New Guinea, or by a short sea passage from the most southerly islands in prehistoric times, when Australia was joined to New Guinea by land since submerged. Thirty thousand or fifty thousand years ago, perhaps, the Gulf of Carpentaria may have been completely enclosed by land, the Great Barrier Reef, Tasmania, and New Guinea physically part of Australia; and even these may have been a causeway along the East Indies linking up with India.

The nature of the aborigines' land of adoption was such that it could not support a large community, and they therefore split up into small tribes, penetrating to different parts of the country. Consequently, the languages in use amongst them vary greatly, for they remained undisturbed until the white man's advent in the seventeenth century—cut off from all the other races of the world for many thousands of years. Even now, many of these primitive peoples still retain their nomadic habits and do not live in the reserved spaces, preferring to find their sustenance by fishing, which they often do by swimming under water and spearing the fish, by hunting, and by delving for edible roots.

AUSTRALIA LAUNCHES A CORVETTE BUILT FOR INDIA: The war effort of the Australian people has been considerable—guns, aircraft, munitions and many other vital war supplies have been manufactured by her. And now Australian dockyards are constructing warships, for her own, and for the Indian, Navies. This picture shows the corvette *Punjab* taking the water at Morts Dock, Sydney: she is the first war vessel to be built in Australia specially for the Royal Indian Navy



TIN-MINING IN MALAYA: How this most precious of minerals is dredged up from the tin-bearing beds of sand and gravel at the bottom of the rivers of the Federated Malay States. The above is the largest dredger in operation in Malaya—*Drawing by L. Ashwell Wood*

Among the most productive tin-mines in the world are those in the Federated Malay States, now threatened by the Japanese. The bucket-dredger shown in the above drawing is the mammoth of the tin-fields: it shows the method by which the tin is brought up from the beds of sand and gravel at the bottom of the rivers of Malaya. An endless chain of manganese-steel buckets is carried on rollers resting on a steel ladder, the lower end of which is suspended by cables and sheaves. The ladder is raised or lowered to bring the buckets to dig into the working face of the tin-bearing sand and gravel. The contents are tipped out at the top and pass to the washers and shaking-screens. The treated ore goes into hoppers alongside, and the residue is dumped over the back. The dredge floats in a paddock, or artificial lake, which it digs as it progresses. Water flows in at the front and escapes at the back, but dams are built behind the dredge to catch the "tailings." Power is supplied by triple-expansion steam engines and high-pressure boilers. There are 120 dredgers in Malaya—77 steam driven, 20 steam-electric, 10 oil-electric and 13 hydro-electric. Here is a complete key to the parts shown in the drawing above: 1—Buckets of 12 cubic feet capacity; 2—Bucket-ladder; 3—Lower tumbler; 4—Lower sheaves and cables; 5—Upper sheaves and cables; 6—Powerful winch for lowering and raising ladder; 7—Auxiliary crane; 8—Port warping cable; 9—Front warping cables for pulling dredge forward; 10—Warping winches; 11—Pontoon; 12—Crane for removing stones; 13—Upper tumbler and driving gears; 14—Driving gear driven by engines; 15—Chute; 16—Washers; 17—Shaking-screens; 18—Chutes for tin-bearing sand; 19—Hoppers; 20—Conveyer for tailings; 21—Triple-expansion engines; 22—High-pressure boilers

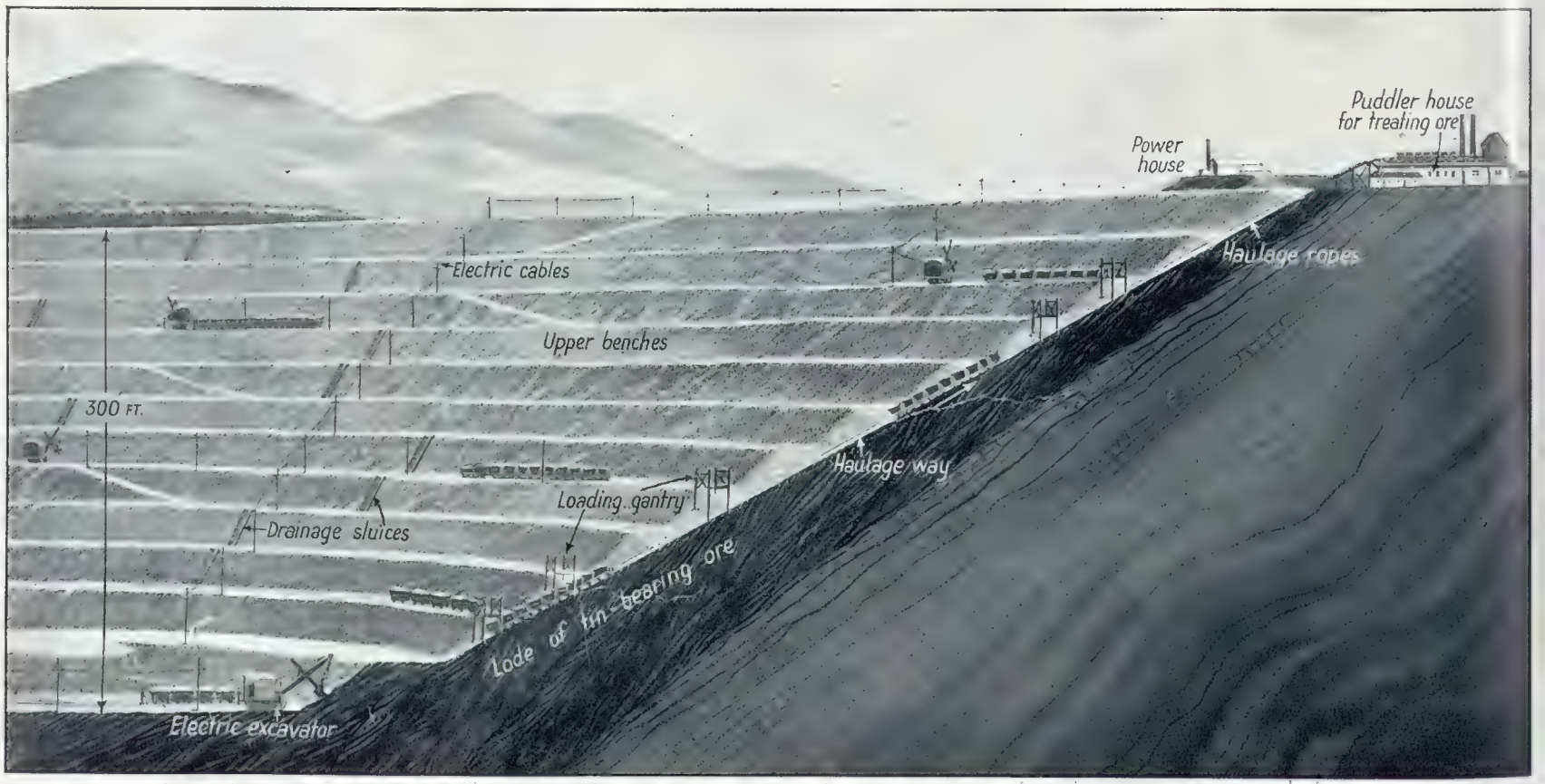
THE INVASION OF THE TIN AREAS

The Japanese Occupation of Parts of Malaya and Siam will undoubtedly Affect the World Distribution of this Precious Metal

—Some notes on the new situation thus created, by E. H. JUDD

GERMANY'S position with regard to her supplies of essential raw materials after a long period of war, and after the occupation by her (with virtual control) of fourteen overrun countries in Europe, differed in a varying degree from that of September 1939. Now that her ally, Japan, has made such strides in Malaya, Siam and elsewhere, it may be that her position with regard to the world's tin supplies will suffer still further changes! In September 1939, the Nazis had accumulated considerable stocks of raw materials, as most of these had to be obtained from overseas. Although the British blockade prevented much of these finding their way into German hands, there is little doubt that most of the stocks in the possession of the occupied countries have been plundered.

Of iron ore, with iron and steel manufactures generally, Hitler has now under his control the great resources of the Lorraine district of France, the famous mines at Kiruna and Gellivare in Norway, as well as the large producing plants of France and Belgium. For aluminium—so much used in aircraft—the great natural supplies of bauxite, from which it is made, in France, Hungary, Yugoslavia



AN "OPEN-CAST" TIN-MINE in MALAYA: Another method of securing the metal by actual mining—*Drawing by L. Ashwell Wood*

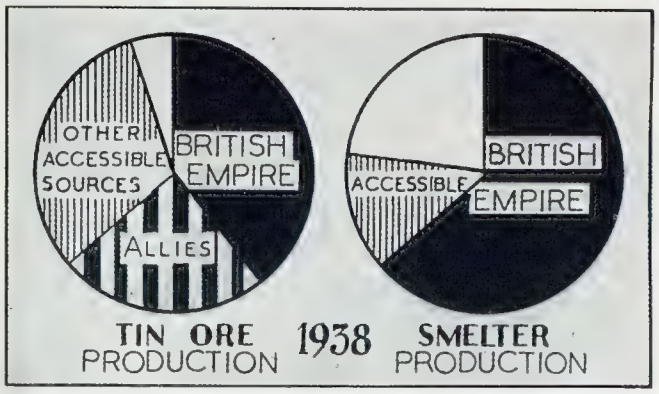
In the case of an "open cast," a huge excavation is made in a series of sloping steps, or "benches" as they are called. In these mines the ore is excavated by electric navvies and loaded into small trucks, which are then hauled up an incline to the surface where the contents are dumped into puddles which wash and treat the ore ready for shipment to the smelters at Singapore. The Hong Fatt Mine, shown in this drawing, is the largest in Malaya: it is 3,700 ft. long, 1,600 ft. wide and 300 ft. deep

and Italy, give him more than 50 per cent. of the total world normal production.

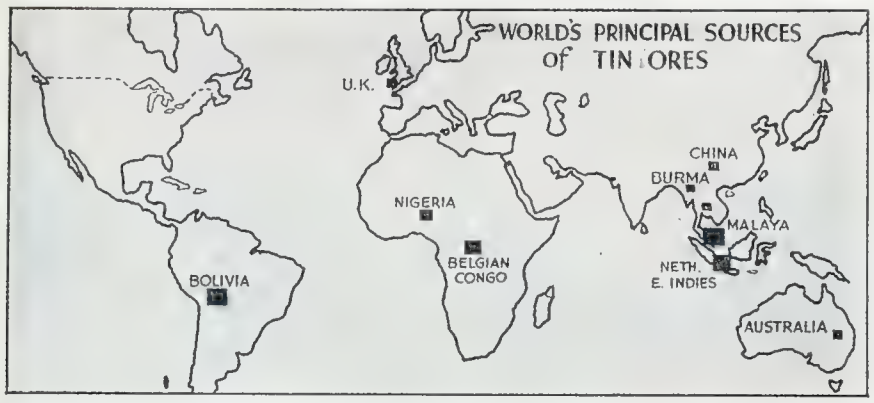
In the case of other metals, such as copper and tin, however, Germany has been badly deprived of all but a very small fraction of these equally necessary raw materials, though not used in such large quantities. Neither of these two metals is found to any extent in Europe, and the total production of the fourteen countries now controlled by Germany was not more than 8 per cent. in the case of copper, and a paltry 2 per cent. or less for tin. So that, in the matter of tin supplies particularly, Germany must have been getting very short.

While the place of tin in the sphere of raw materials for war products is not so noticeable as that of iron and steel or aluminium, the metal, especially in conjunction with copper, is very extensively used. Its valuable properties have been known for centuries. The Romans and Phœnicians sailed their galleys to Cornwall for tin some 2,000 years ago, and, incidentally, Cornwall has still a bit left.

The properties of resistance to the corrosive action of acids on the baser metals such as iron and steel, make tin of great



Diagrams showing the proportion of the world's output of ore and of smelter production available to the British Empire and Allies and accessible to us from other countries. The white spaces above show what is left: much of the tin for smelter production is not available to Germany because the smelting countries cannot get the tin ore



value in the manufacture of "tin" cases of all kinds, both for commercial and foodstuff products, though until paper became so scarce, substitutes of cases and cartons of paper material were being used.

But where tin cannot find a suitable *ersatz* material is in the ubiquitous use of anti-friction bearing metals for every imaginable kind of mechanism. Practically everything made of "brass," bronze and similar alloys contains tin, in varying quantities, up to about 20 per cent. So that, when you try to visualise the thousands of applications of these alloys alone, it will be appreciated how important the supply of tin is.

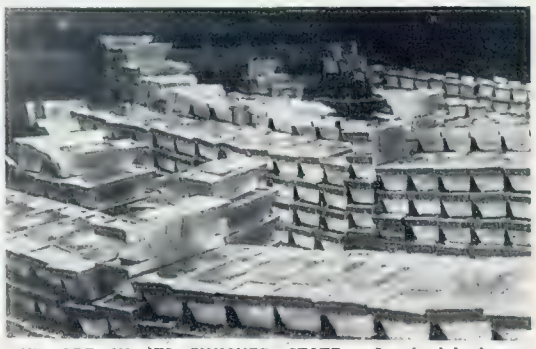
Where, then, are Germany's possible sources of the supply? They are almost non-existent, for all the main producing areas were (before the entry of Japan and her subsequent achievements in Malaya and Siam) far away overseas, and beyond the reach of Hitler's grasping hands.

The world's total production of tin in the last full pre-war year—1938—was 157,000 tons; in 1939 it rose to 184,000 tons; and in 1940 it reached a peak figure of over 236,000 tons—all in terms of metal, the last two years' figures being from reliable American trade reports.

Country	Tons	Percentage of Total World Output	Maximum Previous Output
Federated Malay States	41,000	26	75,000
Netherlands East Indies	27,000	17½	39,000
Bolivia	25,500	16	25,000
Siam	15,000	9½	16,000
China	11,500	7½	11,000
Belgian Congo	9,000	5¾	8,000
Nigeria	7,000	4½	11,000
Burma	4,500	2½	4,500
Australia	3,000	2	3,000

From this it will be seen that, considering the production of the raw material, and taking into account lesser productions not given above, the British Empire produced about 40 per cent.; while the British Empire with our Allies accounted for 63 per cent. If we add to this the output of neutral countries to which we still have access by sea, we reach a grand total of 96 per cent., leaving only some 4 per cent. for the enemy.

If considered from the point of view of smelter production—in which case some of the countries having little,



THE ORE IN ITS FINISHED STATE: Stacked in ingots for export to the world

SIAM IS A BIG PRODUCER OF TIN AS WELL AS MALAYA: This picture shows a tin-mining area at Nakorn Sridbarmaraj: Tin is one of those metals which are rarely found in European countries (outside of Cornwall in Britain): where it is found on the Continent, the production is so small that it has little value to industry. The tin used in Europe comes from South America and Africa: but, above all, Malaya. Siam, a neighbour of the latter territory, also possesses a flourishing tin-mining industry: with a yearly export of 15,000 tons, it ranks fourth highest in the world. Tin is only found in "tinstone" ore: to extract it, the ore is roasted and refined, before treating it with coal: the raw tin is then separated from the other metals, iron and copper, by smelting it carefully. Owing to its density and fusibility, all impurities can be got rid of. Reduced into thin sheets, tin serves for the making of mirrors, for food containers and for a host of other purposes. Allied with copper it forms bronze; and it can be allied with lead; but, above all, it is used for covering other metals—to prevent oxidisation

or no, natural tin ore, in pre-war times smelted a large quantity, the British Empire, together with countries still accessible to us, produced over 76 per cent. But the other countries just referred to cannot get supplies of the ore for smelting, even from their own colonies, although we can, because they are now under German control, and blockaded: e.g., the Netherlands.

So that, whichever way you look at it, Germany is unable to get tin in any form to replenish her supplies, at any rate from abroad. As some indication of Germany's requirements of this metal, during the year 1938 she imported 6,000 tons of tin ore, and nearly 12,000 tons of crude tin, scrap and alloys. The total imports of Germany, Austria, Hungary and Italy in that year was about the equivalent of 22,000 tons.

The value of tin is indicated by the very high price which it has always commanded. With iron and steel in the region of £12 to £15 a ton; copper at £60 a ton; aluminium round about £100 a ton, the price of tin was recently nearer £270 a ton. World consumption had fallen off, due to several countries being cut off by the British blockade, but now that America is rapidly getting into her stride in war production, she is taking, or has now got, very large quantities, being said to have accumulated a very large amount.

The high price of tin encourages the reclamation of the metal from such sources as scrap tins, and recent developments in the U.S.A. have succeeded in evolving the recovery of this by electrolytic processes, as a result of which some 2,000 to 2,500 tons a year can be obtained.

WHAT A TIN-MINE IN MALAYA ACTUALLY LOOKS LIKE: The workings on an alluvial mine, and how they are operated

The WORK of the ROYAL NAVY and of the R.A.F. at SEA

A STORY OF THE WAR AT SEA AND OF THE HEROIC GALLANTRY OF THE ROYAL NAVY: A great liner's crew are rescued by a destroyer which went alongside despite waves 50 and 60 ft. high—*Drawing by Montague Dawson*

It was a wild grey evening of heavy seas, driving squalls and a south-easterly gale: a great liner was going down and half her crew still remained aboard; the remainder had gone away in the boats and had been picked up by other vessels. Now there were no boats left. . . . Another merchantman and an ex-American destroyer were standing by: the waves were running fifty and sixty feet high when a second destroyer came up in response to calls for assistance. As night fell the red glow from the burning fire shone brightly and eventually became the chief source of light. The waves were lifting the liner's stern high out of the water at one moment, showing rudder and screws, and then crashing it down in a cloud of spray the next. At about 10.30 p.m. the second destroyer began to close the burning liner: in a few seconds it was scraping alongside. The men waiting on the after-promenade deck were 40 ft. above the destroyer's fo'c'sle at one instant and ten feet below it the next. "They simply flashed past, and had to jump for safety as if they were jumping from an express lift." Time after time the captain took his destroyer in, and every time the ship was damaged a little more. Wonderful feats of seamanship and sheer, cold-blooded gallantry were performed both by the liner's crew and those on the destroyer: and finally every seaman was rescued, with the captain of the liner the last to leave

WAR AGAINST THE ENEMY'S SHIPPING OFF THE DUTCH COAST: A Hudson of Coastal Command, R.A.F., attacking a supply ship off Borkum, one of a Convoy of four or five enemy vessels—*Drawing by W. G. Whitaker*

During the autumn months the assaults on the enemy's shipping along the Occupied coasts were never-ending: to-day the amount of shipping attempting to brave our blockade by sea and air is dwindling—of necessity, so heavy has our attack been! Nevertheless, under the stress of compulsion, Convoys still attempt to carry their much-needed supplies from point to point, but these enemy vessels are very roughly handled whenever they are spotted by the aircraft of Coastal Command. The incident illustrated by our artist above occurred off Borkum recently. An English Squadron-Leader saw below him a Convoy consisting of four or five enemy vessels: picking out a medium-sized supply ship, he dived down to the attack. Violent anti-aircraft fire was put up, and the Hudson had to take evasive action immediately after dropping a stick of bombs. The rear gunner, however, who was firing at the ships as they drew off, saw two large explosions in the darkness—so that it is reasonable to suppose that still another enemy vessel failed to reach the desired destination!

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Drawing by Roland Davies

WEATHER CONDITIONS IN LIBYA AND CYRENAICA HAVE BEEN PARTICULARLY ATROCIOUS FOR THE R.A.F.: The newly-arrived Kittihawks (built in the U.S.) are here seen flying over a sandstorm. Targets have been rendered invisible, and observation and bombing flights have become laborious and unpleasant undertakings

A KITTIHAWK FIGHTER ON PATROL OVER THE DESERT IN DRENCHING RAIN. This, and the sandstorms, and the wind, have rendered air operations in the fighting zone a distressing business for our pilots during recent weeks—*Drawing by Roland Davies*

So phenomenally wet has been the present season in Libya that the R.A.F. have been sadly hampered in their work as, indeed, have the land forces as well. Almost every communiqué from this zone has made comment on the weather conditions: as far away as Tripoli, great rain-bearing clouds have been encountered. In one report, an air observer describes how "the weather had taken a bad turn, there being a sandstorm *up to four thousand feet.* The pilot of our aircraft (who was doing his 155th raid of the war!), apologised that it was such a filthy day and that so little could be seen. At least I was able to see for myself the difficulties of observers in bombing under such conditions." Fighter patrols have been just as difficult—even more so, in fact, although the great speed and wonderful manœuvrability of the newly-arrived Kittihawks have already proved themselves despite the weather difficulties under which they have been flown

With the 8TH ARMY in LIBYA

ALL-PRECIOUS WATER: Italian prisoners filling water-cans under the supervision of armed Indian escorts at a concentration point behind the battle-front

A DESERT RESCUE: Two men come back in a single-seater—*Drawing by Roland Davies*

This feat earned an immediate award of the D.S.O. to Wing Commander Peter Jeffery, D.F.C.: it coincided with the shooting down by his squadron of their hundredth confirmed victim in the air war in the Western Desert. The Wing Commander was flying a Tomahawk single-seat aircraft when he saw another plane burning on the ground, with the pilot (a fellow Australian) waving a handkerchief. He landed, took the other into his plane, then sat on top of him after having thrown away his parachute. It was a tight fit, and the Wing Commander could hardly move the stick back and had to push the sergeant's legs to one side to reach the throttle! The final landing was quite successful

BEAUFIGHTERS HAVE PERFORMED WONDERFUL SERVICES IN THE DESERT: In this drawing the British pilot is deliberately tearing off the tail of a Junkers dive-bomber. What our men did to these Stukas is eloquently portrayed in the picture below—*Drawing by Roland Davies*

BEARDS ARE IN FASHION: The G.O.C. of an Indian Division (left) examining a map with one of his staff during actual operations

"THE GRAVEYARD OF THE STUKAS": That is the appropriate name given to this dump of Junkers 87 dive-bombers, all of which have been destroyed by Allied pilots in the air above Libya

DERNA AERODROME AFTER THE R.A.F. HAD FINISHED WITH IT: Not only have the aircraft been bombed into uselessness by repeated and concentrated attacks, but the enemy's workshops have also been burned out during the Cyrenaican operations. Note the huge size of some of the aircraft

HOW THE R.A.F. AMBULANCE SERVICE HAS BEEN OPERATED IN THE DESERT: A Flamingo aircraft employed to take serious cases from advanced dressing stations in the field back to the big base hospitals in Egypt—*Drawing by Roland Davies*

Out in the desert there have been many occasions when it has been necessary to transport badly-wounded soldiers back to the big base hospitals quickly and without too much additional pain. In this work Maryland bombers and Flamingo aircrafc have collaborated under the orders of the R.A.F. They have worked between the advanced dressing stations just behind the lines, and flown their patients direct therefrom back to the Egyptian hospitals

British troops of the Eighth Army in Libya make good use of a captured German motor-cycle and side-car formerly operated by the Afrika Korps of von Rommel

R.A.F. ARMOURED CARS: Behind is a fighter plane receiving attention from the ground staff, who have come out by lorry and who are being protected by the armoured car's guns—*Drawing by Roland Davies*

The R.A.F. have an amount of ground equipment which would astonish the uninitiated. They have been using a fleet of armoured cars in the Western Desert and Cyrenaica for the purpose of conveying repair squads to machines in need of prompt lesser repairs, and for the protection of the squads whilst performing their tasks. One such car is seen in operation here

AN AIRCRAFT OF THE "LORRAINE" BOMBING SQUADRON OF THE FREE FRENCH FORCES: One of the squadron's Blenheims coming in to land at a desert aerodrome after a raid over the enemy's positions

On left—Since the opening of the campaign in Libya, the "Lorraine" Bombing Squadron has gone out almost every day—often twice a day—to bomb tanks, lines of communications and aerodromesin Cyrenaica. They have been very successful and have been mentioned several times in R.A.F. communiqués. Extremely keen, they want to be at the Germans and Italians all the time. The mechanics work up to sixteen hours a day on the Blenheims to keep them in perfect order. Nearly all these men have had amazing adventures in their escape from France and Vichy Africa in order to continue the fight against the Nazis

A GROUP OF PICTURES FROM MANY THEATRES OF WAR

FROM YUGOSLAVIA—Nazis at bay before a "non-existent" army: This remarkable picture was taken as rifle-fire was echoing and high explosives were thundering down the Western Morava Valley, as Nazi troops moved against the Serbian guerrillas, timidly and in fear of their lives—although there were three divisions of them. Eighty thousand Yugoslav patriots are still fighting in their country, where Hitler declared the war to be over eight months ago

IN COMMAND IN THE DUTCH EAST INDIES: Major-General H. Ter Poorten, the Dutch C.-in-C., who is now facing threats of invasion by the Japanese in the East Indies

"POISON TO THE U-BOATS": The P.C. 491 is the second submarine-chaser to be built at the Neville Island ways at Pittsburg. She was launched sideways, as is usual with these small vessels, on the day before the Japs attacked Pearl Harbour. Like her sister-ship, the P.C.490, she was quickly tied up for fittings and final touches. Both warships will be floated downstream and then to the Gulf of Mexico, where the U.S. Navy will then take them over

A 60-TON MONSTER JOINS THE U.S. ARMY: This is the American Army's newest and most powerful tank. It weighs 60 tons and is known as the M-1. Here it is undergoing a test at the Pennsylvania plant of the Baldwin Locomotive Works, when it was turned over to the Army. It has destroyed a lorry as if it were an eggshell! This tank is the first M-1 to be built in the United States

THE POLISH PREMIER HOLDS A CONFERENCE AT HIS COUNTRY HOME: General Sikorski, the Polish Premier and Commander-in-Chief, who has just returned from visits to Russia and the Middle East, is here seen at a Press conference at his residence in the Home Counties. The General is addressing the gathering: standing behind him is Dr. Stefan Litauer, best known of Polish journalists; on the latter's right is Count Raczynski, former Polish Ambassador and now Foreign Minister

HITLER WITH HIS VERY OWN GENERAL, ALFRED JODL: A picture taken recently in the War Office in Berlin. After the removal of Von Brauchitsch as Commander-in-Chief and the supersession of other military chiefs, Hitler's two pet Generals—Jodl and Franz Halder—are now in virtual command. It is to their technical knowledge and Hitler's "intuitions" that the German people have now to look for salvation

BANKNOTES NOW FOR THE WASTE-PAPER SALVAGE CAMPAIGN! £1,000,000's worth reduced to pulp at the Bank of England

A SCENE IN THE "OUTPUT ROOM," WHERE THE PULPED BANKNOTES ARE PACKED INTO SACKS: Banknotes which have been withdrawn from circulation from the Bank of England are now helping in the National Waste-Paper Salvage Campaign. When the notes become too dirty for further use they are withdrawn and pulverised. Approximately 7,500 tons have so far gone this way—and each ton of pound notes equals £1,000,000 sterling! **WASTE PAPER is a Munition of War!**

CANADIAN BRIDGE-BUILDERS finish off a bridge which was completed in twenty minutes and which can take loads up to twenty tons

A FIRST HEAVY SPAN IS PUSHED ACROSS THE GAP BY THE BRIDGE-BUILDERS: Canadian engineers are amongst the best in the world: a number of them are now serving in Britain, and in wartime constructions of various kinds they have proved themselves worthy of the bridge-building reputation earned by our own Royal Engineers. One of the fastest working of the Canadian units now operating with the Forces here is stationed in the South-Eastern Command. At a demonstration recently carried out, this unit succeeded in assembling a small box-girder bridge in twenty minutes: the bridge has a 96-ft. span and will take up to 20 tons in weight

ONE OF BRITAIN'S MOST IMPORTANT WARTIME INDUSTRIES: This is the shipbuilding industry. The call of the Merchant Navy is for ships, and still more ships, to take their part in the Battle of the Atlantic. This picture comes from a shipyard where a cargo ship (on the left) and a tanker, built alongside each other, lie side by side in the fitting-out basin, awaiting the final equipment which will permit them to enter this vital battle

CAMOUFLAGE TRAINING FOR THE HOME GUARD: A tough and realistic course of camouflage, combined with field tactics, is given to detachments of the Home Guard at the Fieldcraft School in the South-Eastern Command. From the moment the students enter they have to behave exactly as if they were in contact with the enemy. They are given instructions in bivouacs, cooking and field sanitation. The strictest discipline is maintained throughout the whole course

H.M.S. "MAINE," the Royal Navy's only permanent hospital ship before the war

This vessel was purchased from the Pacific Steam Navigation Company in 1920 : she was then known as the s.s. *Panama*. She has a displacement of 10,100 tons, and cost a quarter of a million to convert from a very comfortable passenger liner to her present use. A new hospital ship had been ordered in August 1939, but does not appear to have been laid down

IN WARTIME, the extra hospital ships requisitioned by the Navy are chosen for the particular work which they have to do : For the Home Fleet, the fast cross-Channel packets (such as the above) are much more practical than the converted bigger liners

The SURGEONS of the ROYAL NAVY

A Record of their Fine Service Under Rough-and-Ready Wartime Conditions

By CHARLES GRAVES

SINCE the outbreak of war about eighty officers in the Medical Branch of the Royal Navy have been killed by enemy action, mostly at sea. A similar number have won decorations and mentions in despatches. And yet, with the exception of a brief "piece" by Commander Kimmins, R.N., issued through the Ministry of Information, little or nothing has been released to the world about their gallantry and devotion to duty.

At the moment there are nearly 2,000 officers in this branch of the Royal Navy, four times the number in peacetime. Only one-fifth of the available doctors and surgeons in Great Britain are being called to the Colours, and only one-sixteenth go to the Royal Navy. These include general practitioners, youngsters who have just ceased their duties as house physicians or house surgeons at big hospitals, and a number of distinguished consultants who were appointed Surgeon Rear-Admirals. Half a dozen others were given the rank of Surgeon Captains.

Few people realise that there are as many shore billets as sea-going billets, and the Medical Director-General does his best to limit the service in small ships to a year. After this period the most brilliant surgeons need a shore billet to prevent themselves becoming rusty. Until recently there were post-graduate courses, but the demands of the Service have necessitated their restriction. A short course in tropical medicine (and foreign diseases) is also given wherever possible, for in this war a ship may be in the Arctic one month and in Singapore the next.

The Royal Navy is used to fighting in every climate, and though malaria is the chief illness, tuberculosis also needs to be treated seriously. True, sea-sickness has provided a problem which even 100 years of research has not solved, and though 90 per cent. of naval personnel get over sea-sickness, the large numbers of Army troops which have to be transported provide a high percentage of temporary casualties.

In *Life Line* I referred at some length to the occupational diseases of sub-mariners. Teams of psychologists, specialists in neuro-psychiatry, have to deal with officers and men who break down under pressure. In the Fleet Air Arm there is bound to be a certain amount of flying stress—more so than in the Royal Air Force. The air crews cannot get regular leave, and the anxiety caused by flying off a ship, by the possibility of losing it, and by landing on it again, is naturally acute. Even when the aircraft has landed on board ship, the air crew does not come back to the nice, relatively safe conditions of an aerodrome on land.

Burns and scalds take up much of the time of naval surgeons. Ophthalmic specialists carry out much research work in connection with eye-strain and dark adaptation. Diets are carefully watched. Scurvy no longer exists. Emergency operations are treated as part of the day's work, and each of his Majesty's ships, from destroyers upwards, have a medical officer. In battleships the Surgeon has a Chief Petty Officer and five sick-bay attendants, and there is also a dental surgeon on board.

M.O.s, when on board, teach first-aid to as many of the crew as possible. They also keep an eye on the general hygiene, watch the water supply, the ventilation, and the food. But it is in actual naval engagements that they command the highest admiration. Listen to this account by a Surgeon-Lieutenant, R.N.V.R., of his experiences in Norway:

He was going aft when a wave swept him against the torpedo-tubes, breaking his right leg just above the knee. "The little pain was extraordinary, and I was able with assistance to get down to the ward-room without difficulty," he says. "There the coxswain and myself splinted my leg, and I was removed to the Captain's shore cabin. The next day we rejoined Captain Warburton-Lee, V.C., and his destroyers, and learned of the proposed attack on the port of Narvik planned for that night. The shipwright made me a crutch from a broomstick, and as the Captain's cabin was the after medical station, I had hopes of being more than a passenger if needed. The only casualty we had at the moment was a man with a superficial graze on his forehead. But next morning the badly damaged *Hotspur* transferred six casualties to us."

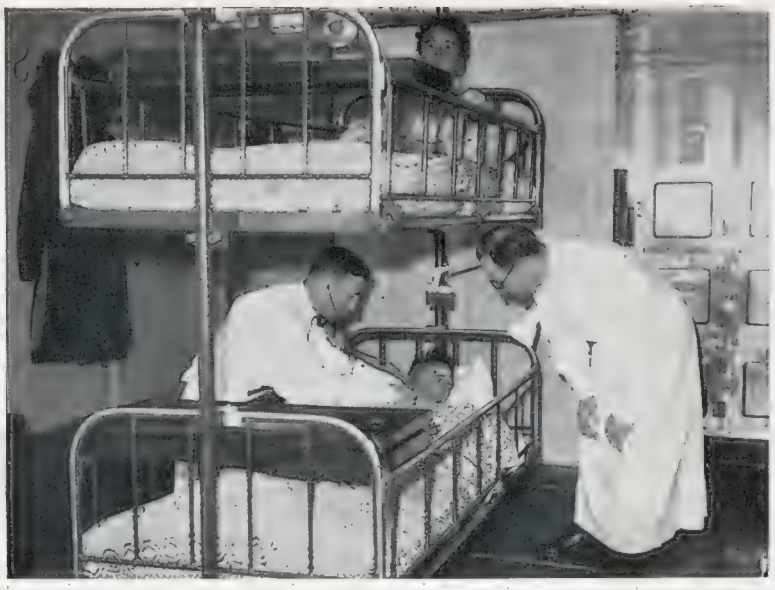
Sitting on one limb of a right-angled settee, with the patients lying on the other, he was able to extract, under local anæsthetic, several pieces of shrapnel. Other cases were treated for shock and their wounds dressed. Later a Surgeon-Lieutenant and sick-bay attendant came aboard from another ship and took charge.

Here is an account of a naval surgeon's experiences when his convoy was dive-bombed: The night that the ship was struck was the stormiest of the lot. The sea was running at 35 ft. in height; the wind was screaming through the rigging at well over 40 knots. The convoy had been shadowed every day by Focke-Wulfs, and for several nights ships had been torpedoed in the convoy. The surgeon's ship was the biggest one remaining. At 1 a.m. he was wakened by a really smashing explosion. The ship had been struck by two torpedoes. He investigated both forward and aft, where the dressing stations were situated. There were no casualties to attend, but orders had been given to abandon ship. He got into the starboard whaler. There were fifteen on board. Six more men were picked up from a Carley float. The whaler was then instructed to proceed to a 1,500-ton motor vessel which had fallen out of the convoy for rescue work. As the whaler reached her she promptly sank. Whereupon the surgeon was asked to take the wheel of the ship because the Quartermaster was with the other officers rigging lifelines. Rescue work proceeded, but it was clear that only those with torches could hope to be saved.

Crete provided many instances of heroism among the Medical Branch of the Royal Navy. A cruiser, for example, arrived in Heraclion after a number of bombing attacks from high-level planes, dive-bombers and torpedo bombers. Near misses had been registered, but there were no casualties. Two hours later the cruiser had embarked a number of troops, including four women who "had apparently been in the show." An hour later she left harbour with thirteen

ARTIFICIAL SUNSHINE FOR SUBMARINE CREWS WHEN AT THE BASE : Crews of H.M. Submarines spend much of their time in confined, sunless quarters below the surface : often they do not see the sun for many days. When the vessels return to the base and are moored alongside their parent ship, the crew are given opportunities of availing themselves of the special sun-ray treatment installed for their benefit : this apparatus is similar to that used for night-fighter pilots

THE PADRE VISITS THE PATIENTS IN THE SICK BAY OF A FREE FRENCH WARSHIP: On the smaller vessels the sick bay is a comfortable cabin, with swinging cots for the patients. Adjoining it, is the "medicine chest" and the quarters of the Medical Officer



SURGEONS OF THE ROYAL NAVY making their visits of inspection to the patients in the sick bay of a British man-of-war

wounded cot cases. Two Army medical officers were also embarked, and immediately offered their services.

Owing to circumstances over which she had no control, the ship had to reduce speed, and was still on the north side of Crete at dawn. The medical organisation consisted of a Surgeon-Lieutenant with one sick-bay Petty Officer and one sick-bay attendant, and a Surgeon Commander with a sick-bay Petty Officer and stretcher parties.

The enemy air attacks began promptly at dawn. Soon the wounded began to filter into the sick bay, mostly suffering from splint and machine-gun wounds. Half an hour later the Captain was hit on the bridge, and the Surgeon-Commander immediately went forward, leaving the two R.A.M.C. officers in charge of the after station. He saw the Captain to the sick bay and then stayed to help the Surgeon-Lieutenant. First-aid was rendered to the wounded and as they were treated they were distributed in the forward mess decks and starboard-covered waist of the ship. From then on the stream of wounded was constant, and included many of the evacuated soldiers.

During this time walking wounded were directed to the after station. An hour later the ship received a direct hit, causing a large number of casualties. In less than two hours the ship was hit again. Most of the medical stores were lost. The sick bay was totally wrecked. The sick-bay Petty Officer was later found suffering from severe concussion.

From then on all wounded were treated aft, the Captain's cabin, the ward-room, the gun-room, and Warrant Officers' mess being rapidly filled with stretcher cases. The walking cases sat around in the officers' cabins. The dive-bombing attacks continued until the late afternoon. The casualties among the ship's company were heavy. As for the troops, it was impossible to check their numbers. Nobody knew how many had come on board or to what units they belonged.

Now for an account of the Surgeon-Lieutenant in a destroyer which was torpedoed. "The order to abandon ship having been given, I filled my pockets with morphia and syringes and put my first-aid bag over my shoulder," he reports. "I then went round the decks with my torch, looking for wounded. I found several dead and one ordinary seaman with leg injuries. I gave him morphia and had him lowered on to a float. Then as there were only three of us left on the quarter-deck and I could find no one else requiring help or attention, we abandoned ship. After about one and a half hours in the water I was picked up by a corvette. She carried no doctor, so I took charge of the wounded survivors. Unfortunately, the corvette had very few medical supplies, and my syringes and first-aid bag had been lost while I was in the water. So I treated them for shock with hot cocoa, warmth, and saline compresses to the burned areas while I awaited a syringe to be sent from another ship."

All the injured were treated in bunks in the fo'castle mess deck, sandbags being used to immobilise the patients with fractures against the movement of the ship. The report concludes: "I very much regret the oil on the enclosed form."

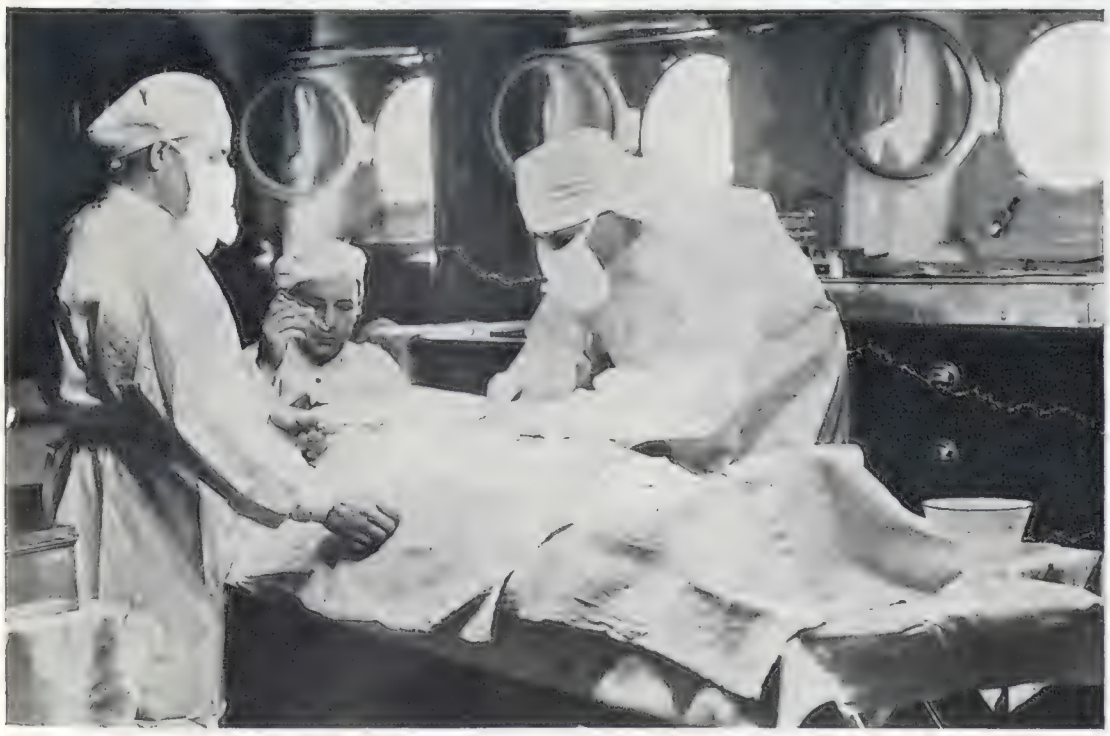
The loss of the aircraft-carrier H.M.S. *Glorious* took place within the Arctic Circle, and in the course of one hour she received a dozen direct hits from the *Scharnhorst* and a cruiser of the Blucher class. Within two hours the signal "Abandon ship" had to be given. The weather was bitterly cold, and there was a long sea with breaking tops.

The heavy sea continued for about twenty-four hours. The floats were adrift for approximately sixty-five hours. When rescued by a small Norwegian trawler, only a few of the survivors were able to clamber up the Jacob's ladder. All had to be assisted to the galley.

Although the threshold for the sensation of cold is well above the average in sailors and marines, all the survivors complained bitterly of cold.

It is a grim story. All the men who sat or stood on the rafts had their legs immersed in water in some cases up to their waist. When they were rescued most of them were unable to walk or stand. At this stage their feet were dead-white and swollen, insensitive, and powerless. With the warming-up of the boat, however, severe pain appeared. This continued day after day until it attained an

A BATTLESHIP'S SICK BAY IN WARTIME, when most of the little touches of comfort contrived by the staff in peacetime have to be taken away for fear of fire in action



AN OPERATION IN PROGRESS ON A NAVAL VESSEL, where much of the equipment is of a rough-and-ready nature. Note the anæsthetist administering his drug straight out of the bottle, by hand

agonising intensity. "Immersion foot," so called, kept the patients in hospital for anything from 15 to 250 days, the average period of hospitalisation being 93 days.

The Boulogne show was another ugly business. Among the officers and men who went ashore was a Surgeon-Lieutenant acting as medical adviser to a party of Royal Marines and accompanied by a sick-berth attendant. His medical stores consisted of a field service valise and six stretchers. Destroyers were running to and from Boulogne all day taking off wounded. The Surgeon-Lieutenant made arrangements to evacuate any casualties to the destroyers. Owing to lack of water he did not consider it advisable to do more than give essential first-aid to the wounded, of whom there were many. Enemy planes then appeared. The Mole was subjected to small-arms fire. Shells were descending from the hills surrounding the town, where the Germans were using captured French batteries.

Nine hours later, the Surgeon-Lieutenant was ordered to embark on a destroyer and attended to the casualties there. "This kept us pretty well occupied until we arrived back in Dover," the report ends.

The strange circumstances in which doctors uprooted from comfortable practices have found themselves at sea have proved the latter's extraordinary capacity for improvisation. "Absent treatment" cures have frequently to be given by signal in convoy; and most people have seen photographs of sick men being transferred from one ship to another in mid-ocean for an immediate operation. This, indeed, is regarded as routine work by the surgeons of the Royal Navy

MEMORIES OF FIFTY YEARS—

An Experiment in Autobiography

By J. G.

This is the Second of a New Series of Fortnightly Articles. The next Article of the Series will be Published on February 7

"RUS IN URBE."—I am a rambler through memory, and shall offer no excuse for interposing here (and so early) a digression designed to stress the rurality of my grandparents' suburban paradise, and its obstinate resistance to the advance of London's Panzer divisions of bricks and concrete.

In his life of maturity my grandfather had the chance to watch London grow southwards from the very door of "No. 1 London," or Apsley House. For when, as a boy, he first came to London (to earn £90 a year in a Government Office), London stopped short at Hyde Park Corner, and there was a toll-gate and a dirty duck-pond where now the buses stop opposite St. George's Hospital. All Belgravia was still to be. The firm of Cubitt had just begun to wrestle with the problems of its conversion from an area of swamp and marsh, known long as the "Five Fields," and bearing on its face little but a hospital and some shacks which had sheltered Jerry Abershaw, the highwayman, and men of his kidney. Snipe still came in to Belgravia in the early 1820's.

In the first years of his marriage, my grandfather rode up to London to his work every day, stabling his horse at Charing Cross, and walking thence in his strapped trousers to his desk in Whitehall.

He rode over heaths and commons, amid market gardens, fields and orchards, skirting the village of Kensington, and passing the pleasant suburb of Broomtown, or Brompton, the "Montpelier" of London.

My father, when he was a Harrow boy, once or twice went down from London in a hackney coach to play cricket on the site of The Boltons, which, you will allow, is to-day pretty close-built. Once at least he lost his way. A farm worker by a haystack directed him across two fields. Crossing them, he put up a covey of partridges. That must have been about 1859.

The years passed, and in 1890, or thereabouts, I walked with my mother to the site for a new block of residential houses which was planned opposite Brompton Parish Church. It was finished and called Egerton Gardens, and we secured our house in it and kept it for thirty years. When, in 1890, my mother and I walked to the site, it was an area of market gardens, with low buildings and hot-houses of the usual kind upon it, and I well remember a barrier of low posts, joined with a loosely-hanging chain, covering the bare ground before these market gardens. For many years after that, the drive out of London, southwards from Brompton led us through miles of market gardens. It is, then, small wonder that our grandparents' suburb, still farther south, retained its rurality and integrity well into this century, and, indeed, still retains a measure of it, thanks to obstinate ground landlords and to a wealth of incorruptible commons surrounding it. When I was a schoolboy, I would contemplate The Crooked Billet, the pothouse just outside my grandfather's back drive, where every evening our 'cowman, John Slack, drank his modest pint, and I would swear that Dorsetshire owned no inn more rustic and remote and peaceful.

"A Sense of Permanence."—The great common which stretched and sprawled for miles from the Thames on the London side to the round pond which stood in front of our own gates has proved a reliable tank-trap against the invaders. My grandfather would sometimes shoot snipe on it when its bogs were filled with water; and the old cattle-pound is still to be seen on its edge.

My father and uncles learned their cricket on a pitch close to the round pond, and to this little ground their uncles brought down teams, to play with all the rigour of the game while the shadows lengthened from the old elms. There are references in my uncle's childish diary to many country matters enjoyed in this suburb, from the digging of badgers to the "songs of the nightingales in the cowslip field." My grandfather soon abandoned his ride up to London, and took to the Underground railway, but still, for most of his active life, the walk from the station up hill to the old village was a country walk amid scenes as rural as in the "real" countryside, and our Sunday walk to church, mostly through our own grounds, was in my childhood very much a rustic occasion.

It led us from the terrace before the French window across the wide lawn, with its centrepiece of flower garden surrounded by a hedge and dominated by a golden globe sundial. Thence along a path, which skirted the big meadow, and led to a lesser clearing amid fir-trees on which stood a thatched garden house, with a floor of rounded pebbles, dark and mysterious within; thence to the farm, but always the ceremony of inspecting the pigs and calves and feeding the hens was reserved for the return journey. Oh, me! To remember the infinite peace and security of that old house, in winter or in summer! Peace, security, permanence! What recked we of features and facts less comfortable and estimable? Of the inconveniences of that old-fashioned house, which, right up to the present century, enjoyed none of the most ordinary conveniences of modern plumbing; of the infinite labours thrown upon the servants, who were compelled to heat all water in the kitchen copper and carry it in a score of brown cans to the upper floor; of the draughts in the living-rooms and the coldness of the soups and joints when they had been borne along furlongs of stone passages to the dining-room? Childhood's memories are doubtless unreliable evidence for social historians; but broadly, like the sundial, in counting only the sunny hours, they succeed in telling "the time of the singing of birds," and accurately enough.

And as for all progress, what is it but the foolish pride of one swiftly-passing generation and the jest of that which succeeds it?

Pride of To-day—Jest of To-morrow.—I remember in the early 1930's, when the final collapse of our outworn social fabric from another world war was not quite certain, paying a visit to the great House of (let us call it) Ormonby, that historic pile and white elephant. Young Lady Ormonby, newly married and filled with reforming zeal, had invited me to view her improvements.

We made the round of the old, familiar rooms, and I was preparing to express a genuine admiration for her taste and sense of harmony, and to conceal my surprise at the restraint displayed by one so modern, when some jarring note of scorn for the fashions of the preceding generations crept into her discourse. I took up the cudgels for those "poor, ridiculous benighted, tasteless creatures" who lived with red velvet mantel-fringes, with clocks in glass cases, and great-uncles in marble, with mats and ottomans and sociables, unwarmed, unwashed, unlighted.

"My dear Olivia," I said, "I have known four Lady Ormonbys. The second of them, greatly daring, showed me the 'last word in luxury' put into the bridal bedroom for the reception of my first Lady Ormonby. It was (not to mince matters) a curtained alcove, having no outlet but into the centre of the bedroom, and containing—an earth closet. My third Lady Ormonby showed me that isolated and icy splendour—the Ormonby bathroom installed by her predecessor 'half a mile' from the guest chambers in a disused garden room.

"And you, the fourth I have known, are jibing at the trashy and jimcrack half-measures of civilisation which satisfied the third! There have been a score of Lady Ormonbys. Can you show me one who has left her mark on the house or garden? You have worked wonders; you have shown admirable taste. But what have you achieved? You have made Ormonby tolerable for a decade, endurable for a generation. And as sure as fate, in thirty years' time, your successor will mercifully veil your flat paints and putty colours, your natural oak and unnaturally spotless tiles. You will depart for the Dower House, and leave not a wrack behind. This old house has known you all, and will outlive and beat you all. It is not you ladies that give it its atmosphere. You can give it nothing but frills and furbelows." . . . So I spoke, or (to be strict) wished to speak to young Lady Ormonby as she made her boast. But a ridiculous convention substituted for my sermon the words: "Quite, quite charming."

(And that, I fear, is a digression within a digression!)

The Great Covert Shoot.—Before I leave for ever the scenes of my grandfather's suburban paradise, I must insert a totally frivolous and irrelevant episode which occurred there, and which aptly typifies the early Edwardian era. I have shown that this rustic retreat lay but six miles from Hyde Park Corner, and was remarkably secluded and rural. It "marched" with just such another suburban paradise, with an Italian name, a rather larger acreage and much woodland. It possessed two sizable coverts separated by a narrow valley. About the time of King Edward's accession, it was leased to a financial baron of German origin, with ambitions in the social and sporting spheres. One cold November morning, as I walked in the garden, I was dumbfounded to observe perched along our party wall a score or more of depressed-looking pheasants, so tame that I could almost *see* the labels on their legs, indicating the game farm from which they had been consigned. On the following Saturday, about ten o'clock, a series of broughams and new electric automobiles began to set down financiers in the next door's drive.

Half an hour later, from my post of vantage on the party wall, I observed these sportsmen, elaborately attired in breeches and gaiters or anklets, posing with guns and cigars and shooting dogs on the garden front. Soon after they moved off to the valley between the coverts. Needless to say, I followed them along our boundary.

The capitalists spread out along the valley, in little groups of guns, loaders, dogs and admiring ladies. Then began the Great Covert Shoot, the last, and perhaps the first, ever staged within six miles of the West End of London.

Fifty purchased pheasants had been lured by heavy feeding into the two coverts, and all that morning and early afternoon these birds were driven over the line of guns, and back again, and forth again, the shooters in the valley merely reversing their front between drives. I do not know how many cartridges were fired. The situation of the pheasants was far from pleasant. There was literally nowhere they could escape to; they could only alternate between those isolated coverts in a suburban area, or stray over our side of the boundary. How many died that day from gunfire I never knew. The gardener's boy (an exuberant nature) put the figure as high as three. Several more were "so badly damaged that it is improbable that they reached their base." I know that for the rest of that winter my walks abroad with a gun on *our* side of the boundary were constantly big with possibilities, surprises and profit. Indeed, our paradise remained stocked with game for the rest of our family tenancy.

BACK-STAGE AT THE PANTOMIME: Although the girls playing in *Aladdin* at the Theatre Royal in Newcastle give thirteen shows a week, they still find time to take instruction in the wings on the working of an engineering lathe. This is to fit themselves for munition work when they are called up. When the show finishes many of the chorus girls will be going into factories

A JUDGE WHO DISCARDS WIG AND ROBES FOR WAR WORK: Judge A. C. Caporn is a County Court Judge for Wolverhampton and its adjoining district. In his spare time he works with masters and schoolboys from local educational establishments on the construction of military motor-truck bodies at a West Midland factory. In the above picture he is seen (on the right) with some of his schoolboy colleagues at the bench

TWO IMPORTANT DECLARATIONS ARE SIGNED IN LONDON

THE SCENE IN HISTORIC ST. JAMES'S PALACE DURING THE MEETING BETWEEN THE REPRESENTATIVES OF NINE OVERRUN ALLIED COUNTRIES, when it was solemnly sworn that retribution for the barbarities of the Nazis and the Fascists against innocent civilians would be exacted after the war

This momemtous declaration was signed by the proper representatives in London of Belgium, Free France, Greece, Luxembourg, Poland, Norway, the Netherlands, Czechoslovakia and Yugoslavia—each of whom pledged his country to exact retribution for the atrocities and barbarities committed by the Nazis and their Axis associates against the civilian populations which they had overrun. Mr. Anthony Eden, British Foreign Secretary, opened the Conference (which had been delayed until his return from Moscow). The picture reproduced above was taken whilst the Conference was in session: reading from the extreme left corner are seen the following—Mr. Bogomolov, U.S.S.R.; Mr. Wunsz King, China; Mr. Drexel Biddle, U.S.A.; Mr. Anthony Eden, Britain; Mr. Massey, Canada; Mr. Bruce, Australia; Mr. Jordan, New Zealand; Mr. Waterson, Union of South Africa; and the Duke of Devonshire (India). Amongst those facing Mr. Eden, on the other side of the Conference table, were—Mr. Spaak, Belgian Foreign Minister; M. Pierlot, Belgian Prime Minister; M. Dejean and General de Gaulle, of Free France; M. Dimitrakakis, Greek War Minister; M. Tsouderos, Greek Prime Minister; M. V. Bodson and M. Beck, of Luxembourg; General Sikorski, Poland; and Count E. Raczynski, Poland

THE REPRESENTATIVES OF THE BRITISH EMPIRE: Mr. Jordan (New Zealand), Mr. S. M. Bruce (Australia) and Mr. Vincent Massey (Canada) at St. James's Palace

AFTER THE ACT OF UNION: Prince Peter; M. Tsouderos, Greek Prime Minister; King Peter; King George and the Crown Prince; and M. Yovanovitch, Yugoslav Premier

GREECE AND YUGOSLAVIA SIGN A BALKAN UNION PACT AT THE FOREIGN OFFICE IN WHITEHALL: The Premiers and Foreign Secretaries of the two countries meet in the presence of the British Foreign Secretary, Mr. Eden

This Pact provides the basis of Federation between the two countries after the war: it covers the military, political and economic spheres, and also provides for a joint common General Staff. The ceremony of the signing of the Agreement was a very simple one: it took place at a table at which five people sat. At one end was Mr. Anthony Eden; next to him was Mr. Nintchitch, Yugoslav Foreign Secretary; then, M. Yovanovitch, Yugoslav Prime Minister; M. Tsouderos, Greek Prime Minister; and M. Simopoulos, Minister in London and Under-Secretary of the Greek Foreign Office. Afterwards the Greek Government gave a lunch at the Dorchester Hotel at which the King of the Hellenes and King Peter of Yugoslavia were both present

The World of Books—By Vernon Fane

THIS WEEK'S LITERARY MIXTURE

Sickert, Cézanne and Echoes of the Impressionist Battle; Osbert Sitwell's Short Stories; Gilbert Frankau's Murder Story; Georgette Heyer's Cloak-and-Sword Romance

WITH a good deal of pleasure I have been reading two important books on art and artists. There must be many who, like myself, are inclined to approach the literature of art with a certain degree of reluctance. It may be the influence of surrealism, or it may be a corollary of that esoteric school of literary practitioners who glory in the cult of unintelligibility. Some modern art critics seem to have evolved a jargon of their own in which for simile and analogy they draw from the obscure vocabularies of modern science and pseudo-science, and they only smile pityingly when it is pointed out that Hazlitt, who probably knew more about painting than the whole lot of them put together, got along very well with plain English.

THE LIFE AND OPINIONS OF WALTER RICHARD SICKERT (Faber. 25s.) is a book which blows the opinions of most of these tiresome teasers of words away as dead leaves before a mighty wind.

AN OLD CRAFT REVIVED OWING TO WARTIME NECESSITIES—Stacking wooden blocks to season before they are finally shaped into clogs: The war has revived one of the oldest of our crafts—which, before the war, was swiftly passing as the families who practised it died. Clog-makers are now experiencing a boom such as has never occurred before, and skilled workers are being snowed under by Government orders from departments which use the heavy types for the Air Force, Marine boots, farmers, miners, etc. Not only are clogs being made for these departments; women, too, are using them for everyday wear—especially as no coupons are asked for them! Clogs for women are being made in different colours, and they are fast becoming a "luxury," so attractively are they finished. Two northern factories are booked up with orders which will take them months to complete. Five thousand bales of leather from India, costing £250,000, are imported each month to supply these two factories alone. The hides are treated in many ways—split, softened, oiled, dyed, waxed, polished and scraped—before they are turned into "uppers." The wooden soles are made from beech, birch or alder wood: the timber is sawn up into blocks and shaped; then the leather tops are added

In this book, Dr. Robert Emmons has achieved a fine portrait of a great artist by the simple process of letting his subject speak for himself from the environment and period of the various phases of his career.

We may remember that Sickert learned from Whistler, and that Dégas and Pissaro were the influences which affected his artistic career in the beginning. We like to be reminded that before he met Whistler, Sickert had started out to be an actor, with his friend Irving, and that he first met Ellen Terry when she was "a rising star in the theatrical firmament." The beginning of his career coincided with the great battle over the Impressionists and Post-impressionists. Then, as ever, through his long life, his opinions were robust, downright, forthright and as far removed from the jargon as anything could possibly be.

"There is only one way to draw, and one way to paint," he says. "There is no new art. There are no new methods. There is no new theory. The old one is great. It prevails, it has prevailed, and it will prevail, for there can no more be a new art, a new painting, a new drawing, than there can be a new arithmetic, a new dynamics or a new morality. When it seems that a new man or a new school have invented a new thing, it will only be found that the gifted among them have secured a firmer hold than usual on some old thing."

In another connection, of painters who have attempted literary descriptions of their work, he says that he had come to the conclusion that it is a safe rule "ruthlessly to brush aside all statements of a painter's aims made by himself. A painter must be judged by his canvases and not by his patter." Elsewhere, and in a much later period, we find him comparing the English word "refinement" with "what the French mean when they say *raffinement*." "The word 'refinement,' as currently used in England, stands, I believe, for a highly cultivated capacity for suffering acutely from noise, from the smell of inferior tobacco, from inferior clothes, from inferior cooking—worst of all, perhaps, from inferior service. . . . The refined are perhaps further from art, who is a robust and racy wench, than any class."

A CRAFTSMAN FIXING THE "UPPER" TO A CLOG

On the subject of art criticism he is particularly refreshing. He objects, for instance, to the setting in opposition of the words "subject" and "treatment." "If the subject of a picture could be stated in words, there had been no need to paint it." Sickert's whole contention, says Dr. Emmons, is that the subjects of too many modern pictures *can* be stated in words, and *are* so stated.

If I may be forgiven one more quotation, I would like to leave my readers with the thought that "In portraits it is the painter, not the sitter, who is betrayed." This pregnant statement occurs in a chapter in which Dr. Emmons has to admit that Sickert is not a popular painter. The author gives very careful reasons for this, with not all of which the layman would be tempted to agree.

By a happy coincidence which enables these two books to be read together, there is published PAUL CÉZANNE, LETTERS, edited by John Rewald (Bruno Cassirer. 15s.). Here, through his letters, is revealed one of the world's greatest artists about whom raged the old battle of thirty years ago. It may be enough to know all there is to know about Cézanne through his work, but in this book we get an insight into his temperament and into those impulses which are revealed in the letters to Zola. It is a record of slow tenacity, of a man feeling his way towards the summit of his achievement through revelations which came to him through many complex forms. It is a book which in a hundred ways underlines the robust dicta of Sickert.

Both of these books are significant, valuable and important, and it is a healthy sign that they can be compiled and published in the middle of the greatest war in history.

OPEN THE DOOR! (Macmillan. 7s. 6d.) is a collection of short stories by Mr. Osbert Sitwell, written originally, it would seem, for magazine publication. The list of these journals ranges surprisingly from the *Fortnightly Review* to *John o' London's Weekly* and *Good Housekeeping*. Mr. Osbert Sitwell is too careful an artist lightly to temporise with the exigencies imposed upon the writer of magazine stories. A lot of critical nonsense is written about the art of the short story. Except that a great many practising novelists to whom the magic figures 8s. 6d. net mean something in royalties could, if they knew their job, compress their tales into a smaller compass, there is very little in it. What a novelist of the Dorothy Richardson school might have made of Mr. Snowberry in "Death of a God," I would not care to explore. Mr. Sitwell treats it as a poignant personal anecdote in fourteen pages. Then, take the story "Touching Wood," which begins with a steamer, a pile of books, an empty soup cup, a deck-chair and some reflections on other people's reading. In fewer pages Mr. Sitwell achieves an almost horrifying vignette of a female Jonah, so that we can scarcely wait to scamper downstairs with him to send a cable.

Most of these stories reveal an acute observation of what might be called ordinary human beings possessed of ordinary human foibles, and there is much enjoyment in the unerring pinning of them by an artist in form and technique. Only in "The Glow Worm" does he appear to lack finish. There was more to be said about this hack journalist with the nimbus, and his contest with Little Tessa.

Mr. Gilbert Frankau's WINTER OF DISCONTENT (Hutchinson. 9s. 6d.) gallops us, rather surprisingly perhaps, into another literary field. We might have expected the winter of Mr. Frankau's discontent to summarise itself in a poor hunting season: Not now. This is a hard-hitting murder story, told on a background of the London *Blitz*. The scene of the murder is the Air Ministry.

Mr. Frankau hits the Civil Service all along the line, but never below the belt, not even in the anti-red-tape poem called "Sniff," his bright parody of Kipling's "If."

There is plenty of punch left for the story itself. The solver of the puzzle, Squadron-Leader William Wordsworth, police chief from the Frankau protectorate, Cape Remittance, keeps right on the trail.

Red tape ties his hands; an American beauty steals his heart; bombs knock him about a good deal. Still he gets there.

This story, though complicated in the extreme, is well worth following to its end. Even the accustomed reader of detective fiction could be forgiven for saying at the climax; "Well, I'll be darned! So *that's* who it was."

In common with many others of Miss Georgette Heyer's persistent and devoted admirers, it has been borne in upon me that this author once achieved a wide popularity as a writer of cloak-sword-and-mask romance. Now, that is all very well as far as it goes, and it goes a long, long way in FARO'S DAUGHTER (Heinemann. 8s.), but those of us who were becoming confirmed in our opinion that Miss Heyer was among the major writers of serious historical novels may be heard to lament that it is some time since we read and enjoyed *An Infamous Army*, *Royal Escape*, and *The Spanish Bride*.

Not that Miss Heyer can fail with any story which is set in her favourite period. Not for nothing has she dogged the footsteps of the First Gentleman in Europe through the rushlit streets of St. James's and knows the plan of the Brighton Pavilion like the back of her hand.

Miss Heyer, then, who scarcely ever sets her foot wrong in period, is well qualified to boil a savoury and succulent pot on the subject of Deborah Grantham, who runs a gaming-house in St. James's Square.

Mr. Ravenscar, Lady Bellingham, Mr. Berkeley Crewe, Lady Mablethorpe, Sir James Filey and Mr. Wantage are all in themselves perfect period pieces. The action has all the atmosphere of bow windows and stucco, while the dialogue lacks nothing of the bravado, tinsel and elegance which the author can conjure so dexterously from her store of knowledge of the contemporary scene.

The fact that goods made of raw materials in short supply owing to war conditions are advertised in this publication should not be taken as an indication that they are necessarily available for export

THE SHAFTESBURY HOMES AND "ARETHUSA" TRAINING SHIP

There may be many, many calls on your purse these days, but this Society is carrying on the truly national work of training young children to become good and useful men and women. They are training the future generation, and what finer work can there be? Many old boys and girls are serving the Empire in all parts of the world, and several have given their lives. Any gift you send will be gratefully acknowledged from the Headquarters of the Society, at 164, Shaftesbury Avenue, London, W.C.2.

Aspects of an Industry

COAL FROM NEWCASTLE

THE Poet Laureate, once a sailor before the mast, has immortalised the "dirty British coaster with its salt-caked smoke-stack" and its cargo of Tyne coal. In the chain of delivery of coal from the pit face to the domestic hearth and factory furnace, not the least hazardous link is the coasting collier. Honour to our coasting seamen, from whatever port they may ply, and to those who in normal times go farther afield with British coal. Honour, too, to our great army of miners, working hundreds of feet below ground — often in discomfort, always in danger — denied the sunlight and the open air. Less recognised is the fundamental part which the British chemical industry plays in coal mining. Were it not for the chemist very little coal would be brought to the surface at an economic cost. Explosives are used in pit sinking, road making, ripping and brushing work, as well as in the actual coal-getting. Coal mines are of two kinds — "open light" mines, which are not dusty or gassy, in which either black powder or explosives may be used; and "safety lamp" mines in which it is compulsory to use only explosives known as "Permitteds", specially designed to prevent gas or dust from igniting. The range of these is so comprehensive that all types of stone and coal, hard or soft, may be adequately treated. "Permitted" explosives must always be fired by means of an electric detonator and their use is today made still safer by a sheathing consisting of a mixture which blankets and cools the gases arising in the shot-firing. British chemical research in explosives contributes not only to the ease and economy with which coal is produced, but to the safety and well-being of the men who work in our mines.

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. . . AND WE DON'T HAVE TO PAY ANY INCOME TAX

. . . . We've already got £60 worth of National Savings Certificates, which will be worth £82 in 10 years, and we don't pay any Income Tax on the increase . . . . . Do you wonder that we're going on buying

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MIDLAND BANK

LIMITED

Chairman: THE RIGHT HON. R. McKENNA
Deputy Chairman: S. CHRISTOPHERSON
Chief General Manager: HERBERT A. ASTBURY

STATEMENT OF ACCOUNTS

December 31, 1941

LIABILITIES	£
Capital paid up	15,158,621
Reserve Fund	12,410,609
Current, Deposit and other Accounts	687,206,091
Acceptances and Confirmed Credits	4,886,593
Engagements	9,815,130
ASSETS	
Coin, Notes and Balances with Bank of England	75,553,266
Balances with, and Cheques on other Banks	30,257,946
Money at Call and Short Notice	22,214,419
Bills Discounted (British Treasury Bills £30,196,989)	33,461,839
Treasury Deposit Receipts	159,000,000
Investments	206,146,013
Advances and other Accounts	169,812,486
Liabilities of Customers for Acceptances, etc.	14,701,723
Bank Premises	9,089,436
Shares in Yorkshire Penny Bank Ltd.	937,500
Shares in Affiliated Companies: Belfast Banking Co. Ltd., The Clydesdale Bank Ltd., North of Scotland Bank Ltd., Midland Bank Executor and Trustee Co. Ltd.	8,302,416

HEAD OFFICE: POULTRY, LONDON, E.C.2

NEWS FROM HOME

Dear Mr. Gerald:

I am writing this letter by the light of a hurricane lamp in the coach house, which is now the guard room of the Home Guard. I expect your own guard room will be a tent, being out in a hot climate as you are.

I have just relieved old Moleskin Widger — the one that used to be a poacher and never did a day's work in his life, but now is a full corporal, and works hard on the land as well, being quite reformed by the war.

We were talking about when the war is over, and Moleskin said why not roast an ox whole and have a barrel of beer? I said why not fireworks as well, but he said he could do without such fiddle faddles as fireworks, and put the money towards a second barrel of beer.

Meanwhile, Sir, I have not been totally oblivious of the need for preparing for some post-war celebrations of a more domestic nature. Although Rose's Lime Juice has become very scarce, I have obtained five bottles which I am keeping in the cellar, the key of which I retain upon my person. It would be a great pity if such a pleasant occasion should be marred by headaches or hangovers.

Trusting that your health remains good in the warm climate in which you are stationed.

I am,
Yours most respectfully,

Albert Hawkins
(Sergeant, Home Guard)

ROSE'S—*the Wise Man's Nightcap*

Eucryl Ltd.,
Southampton

3/6/41

Dear Sir,

I am an ambulance driver, and as you may imagine, my work entails standing about for many hours, waiting to be called for duty. As a result of this, I find myself smoking incessantly. In spite of this, my teeth never get stained, and I think this is entirely due to the fact that I always use Eucryl tooth powder. I like its fragrance, and have noticed that it never appears in the least gritty.

Yours truly,
E. H.....

FLAT TINS 4d., 9d. & 1/3 SPRINKLER TINS 1/3 & 2/6

TAKE THIS Famous Alkaline Saline EVERY MORNING

UNDOUBTEDLY the finest treatment for all Uric Acid trouble is a sparkling glass of Kutnow's taken first thing every morning.

A spoonful of this famous saline-alkaline dissolved in cold or warm water agreeably reproduces the remedial properties of the Carlsbad Spa waters renowned for their virtues in treatment of rheumatism, lumbago, sciatica, gout, etc.

A regular course of Kutnow's Powder dissolves and eliminates pain-causing acids. It increases alkalinity of the blood-stream, puts the liver and kidneys in sound working order, and cleanses the alimentary and urinary tracts.

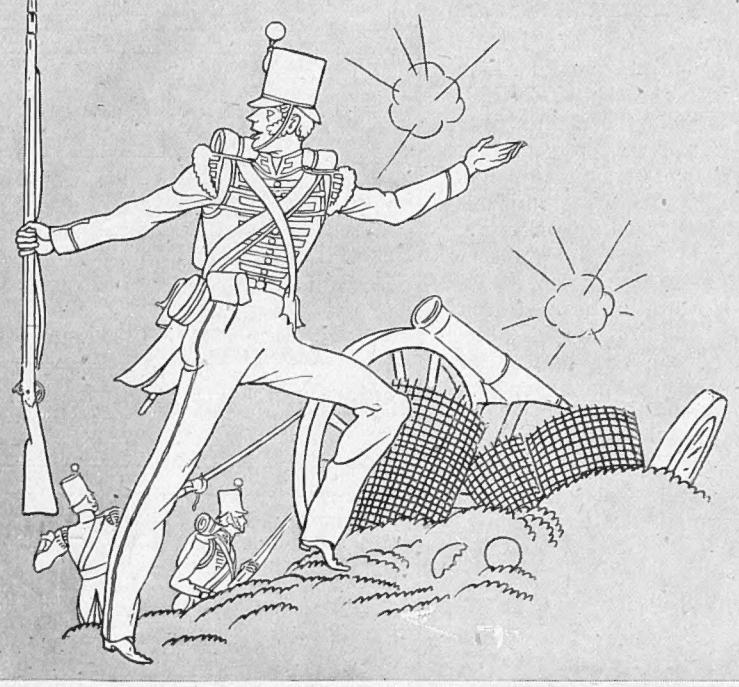
Bringing the benefits of a Spa treatment in most desirable form, Kutnow's Powder has had the recommendation of the medical profession for over half-a-century. Guaranteed free from sugar.

KUTNOW'S POWDER

Kutnow's effervescent Powder, originally produced at Carlsbad, is obtainable of all good-class chemists. Every bottle bears the "Deer Leap" registered trade-mark and facsimile signature S. Kutnow & Co., Ld.

For RHEUMATISM, LUMBAGO, GOUT etc.

Famous QUEENS



The Queen's Own Royal West Kent Regiment

From 1740 to 1748 known as the 50th Regiment of Foot (the Fighting Half Hundred). Became the West Kent Regiment in 1782. Because of an outbreak of Ophthalmia in 1797-99 was nicknamed the Blind Half Hundred. Named Duke of Clarence's Regiment of Foot 1827 and the Queen's Own in 1830.

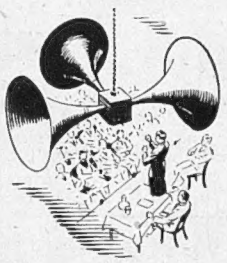
HIGHLAND QUEEN

GRAND LIQUEUR SCOTCH WHISKY

was first produced in the reign of Queen Victoria. It has preserved its original claims to pre-eminence by maintaining the tradition of its blenders during five reigns.

MACDONALD & MUIR LTD., LEITH, EDINBURGH.

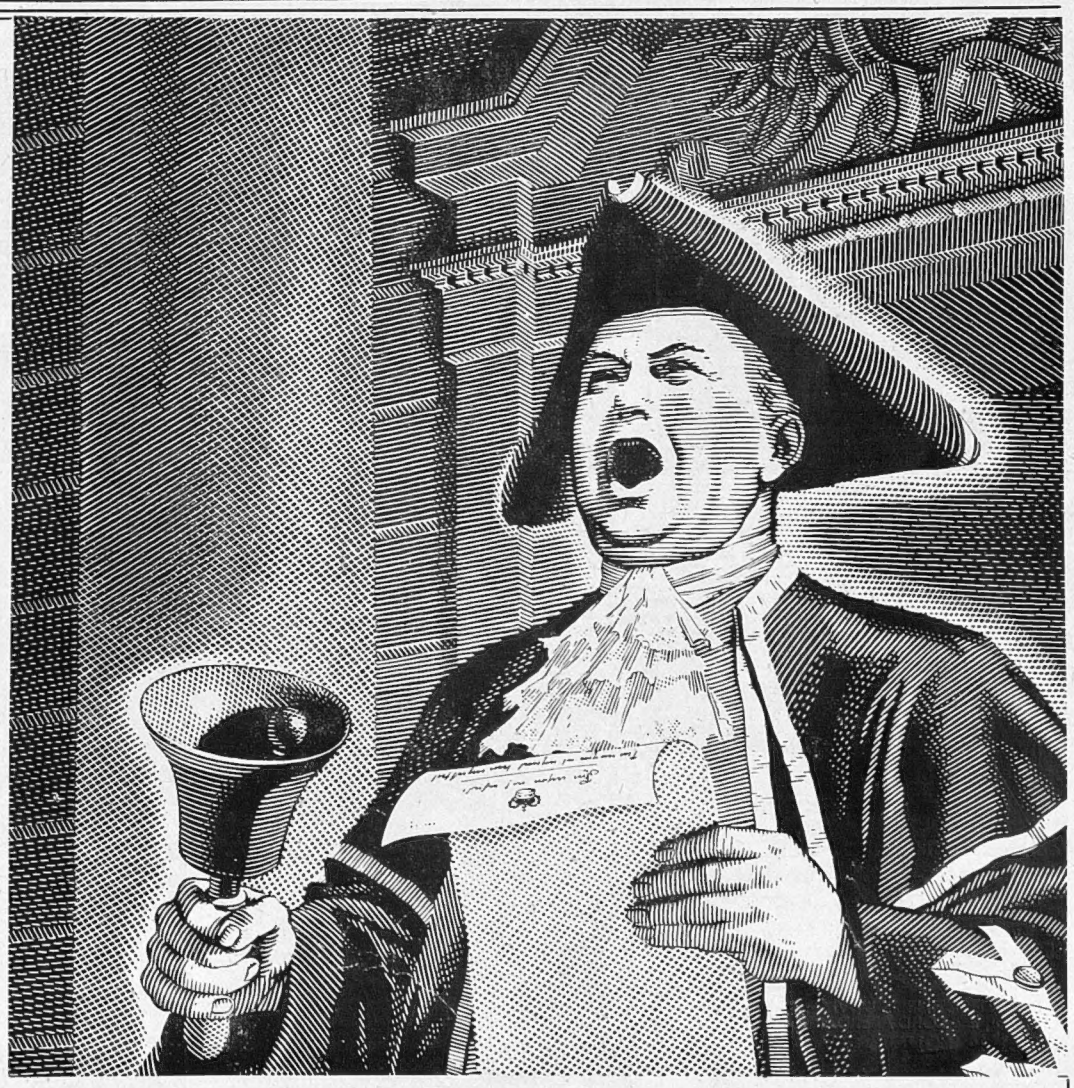
Distilleries: Glen Moray—Glenlivet, Morayshire, and Glenmorangie, Ross-shire.



The town crier passes . . .

His equipment was lungs of leather and a clanging bell. His range the market square. He is gone, but his ghost walks to-day in the stands and open spaces of great arenas, in factories and workshops, and in the many other places where the loudspeakers of the sound amplifier enable one voice to speak to thousands. Electrical development has made this possible, for it has transformed our lives. It has given us brilliant, unlimited light in home and factory ; new standards of entertainment in radio ; the boon of X-rays in medicine and surgery, and new methods in industry. In all these things the name of PHILIPS is outstanding . . . it is a symbol of progress and of achievement.

PHILIPS



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National Appeals

There are TWO wars against Civilisation—and one of them is being waged by CANCER. This dread disease claims over 70,000 victims every year; as many as any major campaign. And the cost of repelling this attack is as great in proportion. Too great for a voluntary institution such as the Royal Cancer Hospital to bear without continued and generous help. We need more funds for research and equipment, so that our willing workers may be constantly on the alert to meet any new phase that may develop and to help every sufferer that comes to our doors. Take heed now—Cancer is a scourge, a menace to human life that *must* be confined—even in wartime. Send your contribution to this worthy cause to-day—not to-morrow!

The Royal Cancer Hospital

(FREE)

FULHAM ROAD, LONDON, S.W.3

DR.

BARNARDO'S

HOMES

Do you know *this* "FOOD FACT"?

25,000

meals are needed every day by our huge family of

8,200

destitute girls and boys.

10/-

will feed one child for ten days.

GIFTS for FOOD WARMLY WELCOMED.

Cheques, etc. (crossed), payable "Dr. Barnardo's Homes," should be sent to 20 Barnardo House, Stepney Causeway, London, E.1.

4,000 children admitted since outbreak of hostilities, including **1,000** due to war causes.

Behind barbed wire

More than 60,000 British Prisoners of War will spend this winter in Captivity. For most, it will be their second year in enemy hands. Please imagine what your own feelings would be in like circumstances—and send a donation TO-DAY.

£5 *will send regular parcels and cigarettes for a year.*
£50 *will send regular parcels and cigarettes for a year to 10 prisoners.*

To MISS CHRISTINE KNOWLES, O.B.E., *Hon. Director, and* LORD ABERDARE, *Chairman.*
BRITISH PRISONERS OF WAR BOOKS AND GAMES FUND
(*Registered under the War Charities Act, 1940*)
Carrington House, Hertford St., London, W.1.
I enclose £ : : to help our men who are Prisoners of War.
NAME .....
ADDRESS .....
.....

IN QUEST OF GOOD HOTELS

BY ASHLEY COURTENAY

Owing to rationing of paper and the demand on our editorial pages, it is necessary to omit from time to time Mr. Ashley Courtenay's usual weekly article. We would, however, emphasise that his services are always available for advising SPHERE *readers by post of hotels, both large and small, known to him personally. Letters, accompanied by a stamped, addressed envelope for reply, should be addressed to him c/o The Editor,* THE SPHERE, *Commonwealth House, 1, New Oxford Street, London, W.C.1. Personal and telephone inquiries, however, cannot be accepted.*

BOURNEMOUTH offers shops, scenery and plenty of winter sunshine. BOURNE HALL HOTEL provides admirable winter quarters in a central position. Bridge, Billiards, Warmth and plenty of breathing space. Resident Directors: Mr. and Mrs. R. J. Bray. From 4½ gns.

DEGANWY, North Wales. CASTLE HOTEL. An excellent hotel for a wartime break. With its fifty comfortable bedrooms, this pleasantly situated hotel on the Conway Estuary offers peacefulness and plenty in the shape of golf, fishing, boating, with bowls and riding near by. Tel.: Deganwy 83358.

DORSET, Nr. Shaftesbury. COOMBE HOUSE HOTEL. Away from the atmosphere of war. Situation healthy and beautiful. Every comfort. Trains met Semley by appointment. Tel.: Shaftesbury 130.

EXETER. THE ROYAL CLARENCE HOTEL. "Meet me in the Cocktail Lounge. The rallying ground of the Services."

HADLEY WOOD, Nr. Barnet, Herts. WEST LODGE PARK HOTEL. In the heart of the country yet but half an hour from Piccadilly Circus to Cockfosters. A country house of character and charm. Sixty acres of ground and not a roof in sight. Golf course at the drive gates. Proprietor: B. Victor.

NINFIELD, Sussex. MOOR HALL HOTEL. Here, 250 ft. up, facing due south and *not* in a defence area, you can get a break from war routine. Fresh produce from our own farm and gardens. Fishing and rough shooting. Club licence. Trains met Crowhurst or Bexhill. From 4 gns. Tel.: Ninfield 330.

TORQUAY. HEADLAND HOTEL. Though full at the moment, it is an hotel to make a note of should you wish to enjoy quiet luxury midst peaceful surrounds. The Management will welcome your enquiries.

THE NORFOLK HOTEL

BOURNEMOUTH

Traditional superiority. Combines all the factors that one expects to find in a first-class hotel, Restaurant, grill room, men's bar, Richmonde Lounge—the social rendezvous of Bournemouth—with Marcel Torrent and his orchestra. Apartments each with P.O. telephone and most with private bathroom. Tel. 7272 every room. *Resident Directors:* Mr. and Mrs. F. J. McInnes.

THE COMPLEAT ANGLER

A RIVERSIDE RETREAT FOR THE BUSINESS MAN

Under the supervision of Mr. BALLY, late of Boulestin, this hotel combines comfort and convenience with food that only an expert can produce.

Within easy reach of London, yet deep in the country

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MIDHURST, Sussex

Tel.: Reception—Midhurst 10; Visitors—Midhurst 343
Terms from 6 gns.

A.D. 1430. Not a prohibited area. For leave or a restful holiday come to this historic house; excellent food from our own farms, modern comforts, good fellowship, in atmosphere of the good old times.

PADSTOW, North Cornwall

METROPOLE HOTEL

Unexpected vacancies occur for the Winter months. Secluded and sheltered situation overlooking the Estuary of the Camel. Mild Winter climate. Comfortable and well-equipped accommodation. Direct train service. Write to the Manageress, Mrs. Coe, at the hotel, or telephone Padstow 7, or London, Temple Bar 7741

FORTFIELD HOTEL

SIDMOUTH S. DEVON

Standing in its own grounds, overlooking the sea.

Self-contained Suites. Finely appointed Public Rooms. Lift and every modern convenience. H. and C. in all rooms. Fully Licensed. Lock-up Garages.
Resident Manager: Mr. E. G. Russell, Fortfield Hotel, Sidmouth, S. Devon,
Telegrams: Fortfield, Sidmouth. Telephone: Sidmouth 39

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Tel.: Stratford-on-Avon 2575

Comfort, warmth and quality food make for pleasurable living at this first-class hotel. Nor is Stratford dull in Winter. Write for list of forthcoming attractions.
Terms 5 to 7 gns. per week

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AND HERE IS PEACE . . .

A sheltered park of 60 acres. A sun-trap 400 feet up. An hospitable and first-class hotel for the Winter months. London under an hour by train. Sporting golf course in the grounds.

THE SPA HOTEL

ROYAL TUNBRIDGE WELLS

Write for tariff-booklet entitled "And here is peace" Telephone: Tunbridge Wells 1911

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PLUS PURCHASE TAX

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Look for the Mark on the cloth

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In the Mess, in Hotels, Restaurants and Bars—no less than in the Home—the call is for Whitbread's superb Pale Ale.

Brewed from British hops and barley; appetizing, refreshing, stimulating; Whitbread's superb Pale Ale is more popular than ever.

WHITBREAD'S PALE ALE

BREWED & BOTTLED BY WHITBREAD & CO., LTD., LONDON, E.C. 1

MINISTRY of HEALTH SAYS: COUGHS & SNEEZES SPREAD DISEASES

VAPEX

The Magic Drop

WILL STOP THAT COLD

USE VAPEX at the first sign of a cold and it will be cleared promptly and safely. Breathing VAPEX removes the stuffiness by penetrating to the source of the infection—the warm recesses of the nose and throat—where it destroys the breeding germs.

If you have let your cold develop, VAPEX will shorten the attack, ease the breathing and clear the bronchial passages.

A drop on your handkerchief

Simply sprinkle a 'magic drop' of VAPEX on your handkerchief and breathe deeply from it frequently during the day. At night put a drop on the end of your pillow. All symptoms of your cold will soon be gone.

From your Chemist, 2/3 & 3/4

V217A THOMAS KERFOOT & CO. LTD.

GRIGOR for VIGOR

Traditional quality
OLD SCOTCH WHISKY
in original OLD-FASHIONED FLASK

Unsurpassed in quality, although restricted in distribution by scarcity of old stocks

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For clean, comfortable shaving the Eclipse Blade stands supreme and, when used in conjunction with the Eclipse Red Ring Razor, the perfect shaving combination is obtained.

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E182a

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The first question comes from Mrs. Black, of Wakefield. She asks: "Who invented biscuit-making?"

The Philosopher: "Biscuits were made by hand from time immemorial, but the first biscuit-making machine was invented by Carr's over a hundred years ago."

The Citizen: "Yes, when I was in Carlisle the other day they showed it to me. Now they are making more biscuits than ever before (although so many of their girls and men have gone to join the National war effort), and their high quality causes them to be bought up quickly. Fresh supplies are always coming along, however, so I am told."

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CARR'S BISCUITS

A Necessity and a Luxury

Carr's of Carlisle

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-gives you driving power!

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